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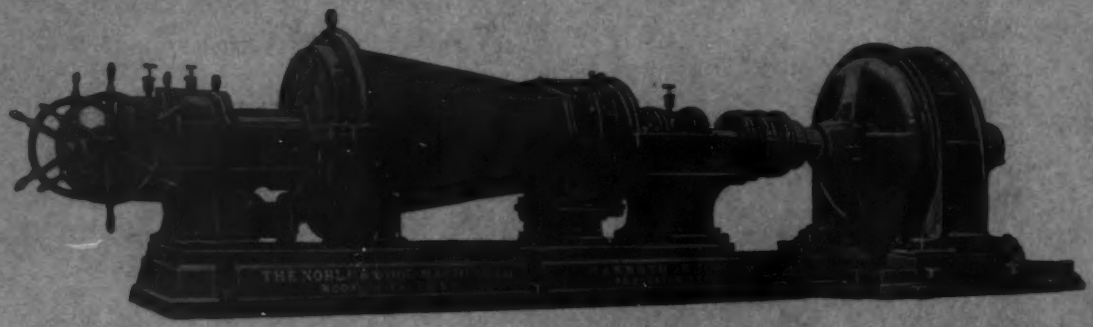

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PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-THIRD YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., INC.

LESLIE R. PALME' PRESIDENT — GEO. S. MACDONALD VICE-PRESIDENT & TREAS — F. K. HOPPIE SECRETARY

10 EAST 39TH ST. N.Y. U. S. A

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PAPER

Vol. LXXXI. No. 1 — Thursday, July 2, 1925

The Magazine of the Paper Industry

Paper and Pulp Committee Gathers Interesting Data

Report Showing Conditions in Industry During Past Three Months to be Presented Next Week to the Atlantic States Shippers Advisory Board at Meeting to be Held at Atlantic City—Thirty Five Per Cent of the New York Mills Report Conditions as Less Satisfactory Than for the Corresponding Period of 1924—Railroad Service Generally Called "Good."

An interesting report of the Paper and Pulp Committee will be presented on July 8-9 at the seventh regular meeting of the Atlantic States Shippers Advisory Board which will be held at Atlantic City.

This organization is a voluntary one composed of carriers and shippers and was organized for the purpose of bringing about better conditions for both. It has numerous committees representing various commodities and already considerable good has been accomplished. A recent achievement of the organization which is of benefit to the paper industry was the procuring of rack cars for the transportation of pulpwood, the details of which were published in the PAPER TRADE JOURNAL recently.

What Report Will Show

The report which will be presented by the Paper and Pulp Committee at the Atlantic City meeting next week was prepared by A. H. Campbell, traffic manager of the International Paper Company, and O. M. Porter, assistant secretary of the American Paper and Pulp Association.

The report, it is understood, will show that about one quarter of the New York State mills reporting, state that conditions with them during the past three months have been better than during the same period in 1924. About 40 per cent stated that there was no material difference in the conditions while 35 per cent reported that conditions were less satisfactory.

The Same as in 1924

New Jersey and Pennsylvania mills were practically unanimous in stating that conditions have been approximately the same as in 1924.

Regarding the pulp and paper stock situation, the report compiles the returns received from questionnaires sent to importers of wood pulp and paper stock shippers. These indicate that an increase for June, July and August of from 15 to 20 per cent is anticipated.

The mills in all three states expect to require about the same number of cars as last year although the reports indicate a tendency toward decreased requirements.

About 60 per cent of the reporting mills in New York State indicate that they will require about the same number of cars as for the same period last year. Average decreases of approximately 20 per cent is shown by 40 per cent of the mills. Rack and box cars will be required in about an equal proportion, both exceeding the requirement for "Gondolas" at least ten times.

In Pennsylvania and New Jersey similar conditions were reported and the box car requirement was practically 100 per cent.

All three states reported an ample car supply for both outbound and inbound shipment.

The mills in New York State reported railroad service as good, few mills speaking of the service as only "fair" and none of them referring to it as "poor." This applied to road, terminal and other lines. Pennsylvania and New Jersey mills were a little less enthusiastic, the reports being about evenly divided on "good" and "fair" service.

The committee had no transportation problems submitted to it during the past quarter but it will report progress on an April complaint of a New Jersey company relative to divided shipments and free storage at the docks.

Carthage Sulphite Pulp & Paper Plant to Reopen

WATERTOWN, N. Y., June 29, 1925.—Re-opening of the plant of the former Carthage Sulphite, Pulp and Paper Company at Carthage, N. Y., is now practically assured and while the date of the opening is not yet known, it is said on authoritative information that the date will be July 6.

The plant will be operated by the Carthage Paper Board Company, Inc., a title holding company that was organized about three weeks ago. The title holding company, however, will assume full control of the plant as it represents the bondholders who have until August 23 in which to dispose of the plant or put it in operation.

The directors of the newly formed company include Fred Smith of the Kilby, Norris and Smith of Carthage, N. Y., Attorney H. E. Harris of Harrisville, N. Y., and J. V. Dempsey, a junior member of the Kilby, Norris & Smith firm.

Little information is available regarding the plans of the bondholders. The bondholders had the choice of raising sufficient capital to place the plant on an operating basis and retain it in Carthage or of dismantling the plant to sell or to operate it in another part of the state. The loss of the plant would be a severe industrial blow to Carthage and inasmuch as the majority of the bondholders have a business interest in Carthage it is believed that this fact was an influencing factor in the decision to re-open the plant in Carthage. Dr. David Balmat, a Carthage resident, is one of the heavy bond-holders as are several other Carthage men. Attorney Charles E. Norris of Carthage has represented them.

James H. Quinn of Watertown who has been superintendent of the Hinde & Dauche plant here for some time is slated to be superintendent of the new plant, it is said, and no denial of this fact has been forthcoming from the directors.

Philadephia Demand Fairly Active for Season

Mills in the Vicinity of Philadelphia Running at 70 to 90 Per Cent of Capacity With Those on Book Papers the Most Active—Ninth Annual Golf Dinner Match of Combined Paper, Printing and Publishing Trades Is Held June 23 at Links of Merion Country Club

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, Pa., June 29, 1925.—In the round the Quaker City paper distribution is being maintained at a fairly active rate in view of the seasonal tendencies towards quieter summer time business sessions in the general industrial life of the city. Though the dealers are confident of a steady market throughout the summer they are not looking for a broader distribution then that of the present days when most of the purchases are confined to specific grades of specialties in both fine and coarse papers rather than to the general lines. Most of the orders are mill shipments and while bulk demands are the leading market factors they are being maintained on a parity with the markets of the same period of last year.

Book Papers Active

The active grades in the fine paper division are the books. The larger publishing, advertising and printing concerns of the city now are placing their orders for mill shipments on a larger scale than for many months in anticipation of a summer season of preparation for the resumption of fall business. The intermediate priced grades are the best sellers among the larger publishing houses. The demand for bonds and other writings is not as broad as in the early days of June when the printing stationery and other allied industries were in the market for bookkeeping and accounting requisites for the semi-annual inventory and accounting season now in swing.

Mills in the vicinity of Philadelphia are running at from 70 to 90 per cent of capity. Mills manufacturing book grades are the most active while the others are devoting their time to the production of specialties which are active in the distribution markets such as glassine and grease proof products and wrappings. Corrugated products have been moving in larger proportions as the canning season approaches but the various grades of box board still are laggards as there is not much activity among the box making industry at this time.

With the inventory season in swing there are many odd lots of paper being offered by the jobbers who are desirous of cleaning house and are making prices attractive on discontinued grades or broken, or shop damaged stocks.

Paper Distributors in Golf Tournament

The paper distributors of the Quaker City spent a day on the Golf Links of the Merion Country Club on June 23 in contest with the Graphic Arts Golf Club in its Monthly Tournament. The paper men who contested on the line up of the teams into which the Golfing Tournament was divided were all members of the Philadelphia Paper Trade Golf Association and though they were pared off with the monthly players of the Graphic Arts Club this was their Ninth Annual Golf Dinner Match of the combined Paper, Printing and Publishing Trades, which has in recent years been an event of friendly co-mingling of trade associates in the most important sporting program of the summer time in trade annals. This year's line up was entitled the Red and Blue Teams with a mixed list of trade players selected from the graphic arts industries. The Red Team, captained by Hal T. Sorenson, of the Beck Engraving Company, met defeat at the hands of the Blue Team by the score of 12 matches to 10, and as ruled by the schedule of awards paid for the dinner served in the spacious club rooms of the Merion Club.

To Arthur B. Sherrill, of Riegel & Co., Inc. went the laurels for the Kickers Handicap with his 93 handicap, 22 net 71 and to his trade associate S. A. Benedict, whose handicap was 104—33 net 71. The Kickers handicap was in conjunction with the team play.

In the afternoon there was played the game for the award of the Philadelphia Paper Trade Golf Association Cup for the best low netscore and won by Charles F. Kindt scoring 85, handicap 17, net 68. J. M. Conover came second with a score of 84, handicap 16, net 68.

Victory Paper Company Purchases Home

A new home has been secured by the Victory Paper Company, 1012 Walnut street, through the purchase of the five story building located at 125-127 S. 11th street. The new quarters extend from 11th street to Clinton street in the rear and give the firm a centrally situated paper warehouse. The firm will not occupy the premises until the expiration of the lease of the present tenants three months hence. The building will be entirly remodeled and two additional stories constructed making a total of seven stories to the remodeled structure, the Victory Company, occupying the 6th and 7th floors for its warehousing purposes. Negotiations are now under way with an out of town paper firm for the occupancy of the remaining five stories. When the Victory Company takes possession of the premises it will add to its paper business the local representation of one of the prominent mills and will carry a complete stock of that manufacturer's products in this city. The Victory Company, established more than eight years ago by the present owner John Dankel, specializes in bankrupt sales and odd lot purchases of fine papers particularly distributing large quantities of bonds, manila writings and onion skin papers of this character. Although planning to occupy two floors in the newly purchased building the Victory Company will maintain its Walnut street address as sales offices and executive headquarters.

Satterthwaite Paper Company Expands

Although but recently added to the Philadelphia fine paper distribution list the Satterthwaite Paper Company, occupying the building, 231 Chestnut street, which for more than 15 years has been the home of several newly organized paper companies before their expansion into larger quarters, is now branching out and extending its line of mill representations. The very latest of lines to be stocked are the Esleeck Manufacturing Company's Fidelity Onion Skins manufactured at the Turner Falls, Mass., mills of that company. These supplement other recent additions such as the Greylock Ledgers made by the L. L. Brown Paper Company; bonds and ledgers of the Neenah Paper Company and the card boards made by the Franklin Paper Company, of Holyoke, Mass. Another new stock is that of a standard mill line of coated, two side papers, produced by one of the nationally known mills. The head of the company is Howard Satterthwaite, who for more than 15 years was associated with the Garrett-Buchanan Company, and in recent years its assistant manager. It is the intention of the head of the firm to add other lines to those already installed and to carry a complete assortment of fine papers of all grades.

Manayunk Mills Affected by Low Waters

Long continued drouth, responsible for the low waters in the Schuylkill River, has been affecting the mills operating in the Manayunk District and unless there is a heavy rainfall shortly it is likely that the mills will be warned by the city authorities against the use of the water supply from which the municipal

works draw their sources for city usage. While there has been no restriction placed upon the mills at this time, a warning has been sent out by the city, cautioning against the waste of the water. The mills have been able to maintain operations but the low waters have made it difficult to obtain the normal power forces necessary for full speed. As a result most of the mills are now on a 70 per cent basis of operating capacity.

McDowell Mills Run on Specialties

Though the low waters of the Shuylkill have been effective of low speed in mechanical operation the McDowell Paper Mills, in Manayunk now are producing to capacity in glassines and grease proof specialties. The increased demand for these summertime products has enabled a 100 per cent production at the mills. While the mills have ample markets for the greaseproof and glassine paper the wrapping business is not as broadly distributed and the run at this time is within a 75 per cent capacity.

Jessup & Moore Producing More Books

All the mills of the Jessup & Moore Paper Company, whose Philadelphia headquarters are located in the Commercial Trust Building, now are running to capacity on book papers. The increased demand among the publishing houses for books has made it possible for the full time operation of all the mills in the Elkton, Md., and Wilmington, Delaware, districts on the Jessup and Moore brands.

D. L. Ward Co. at Typothetæ Meeting

On behalf of the D. L. Ward Company, Jesse Clark, of the S. D. Warren Paper Company's Field Service Department, gave a talk on "Printer's Salesmanship" before the members of the Central District of the Typothetæ at the meeting of that organization in Lancaster last week. Thomas Curry represented the Ward Company at the dinner in the Brunswick Hotel, given cojointly with the session of the central Pennsylvania printers organization. The Ward Company has been conducting a series of printing educational campaigns for the past few months among them was that held at the recent convention of the advertisnig men held in Bethlehem, Pa., when an exhibit of advertising matter printed by the leading firms in various industries was made in an elaborately planned display featuring several panels of effective advertising matter, from all over the country. Among those who took part in the exhibition of the Ward assembly of ads were: George W. Ward and William A. Hentz, of the Company, R. D. Fleming, head of the Educational Department and Miss Elizabeth M. Townsend.

Recent Smith & Winchester Installations

SOUTH WINDHAM, Conn., June 29, 1925.—The Smith & Winchester Manufacturing Company, manufacturer of paper mill, paper cutting and paper bag machinery announces that it has recently made installations of it bottomers and tubers at the plants of the following concerns:—The Adams Bag Company, Arkell & Smiths, Bemis Brothers Bag Company, George & Sherrard Paper Company, Hammond Bag and Paper Company, The Jaite Company, Miller Tompkins & Co., Tarentum Paper Mills.

They specialize on tuber and bottomer machines for the flour, cement and lime trade.

Within the last three years, the company has designed and placed on the market its heavy duty type of tubers and bottomers with many patented features for the heaviest Kraft and rope fiber papers used in the manufacture of cement and lime valve bags.

The heavy duty tuber is equipped with large rolls running in roller bearings for corrugating the full width of the paper while the tube is being made. This is a valuable feature, as this operation formerly had to be done on a separate machine.

Another patented feature on this machine is an indexed dial mechanism for the exact timing of the thumb cut knife in unison with the cut-off knife.

Bryant Paper Co. Completing Improvements

[FROM OUR REGULAR CORRESPONDENT.]

KALAMAZOO, Mich., June 29, 1925.—The new central stores and shop for the Bryant Paper Company is completed and with machinery and equipment being installed, will soon be in operation. This unit is not only one of the best of its kind in the city, but has the added advantage of consolidating work formerly done in four scattered shops under one roof, thus effecting considerable economies in labor and overhead.

The building is located as near as possible in the center of the great Bryant industry and is equally accessible from all divisions of the plant. It is 59 by 172 feet in dimensions, two stories high. The basement is occupied by the Bryant central stores. All machine supplies are kept here on steel shelving and in steel bins. Everything taken out is delivered on order and with a competent storekeeper in charge, a complete inventory of stock and material on hand will be available every 24 hours.

The second floor is occupied by the machine shop. It has a wood block floor and the construction is planned to carry up to 450 pounds dead weight per square foot. A ten ton crane makes the handling of heavy rolls and other machinery very simple. On a mezzanine floor overlooking the main shop area is an office for the shop superintendent, fine shower baths and conveniences for the employees. It is a daylight shop, the natural lighting system being perfectly worked out. The R. D. Boyer Company erected this plant.

Work is progressing rapidly on the new defibering system, which is being installed in the Milham division. R. D. Boyer, contractor, says his portion of the work will be finished by July 15. While it has not been necessary to erect any new units in connection with this installation, a large amount of interior construction has been done, as well as much remodelling of present structures. A new bleach tower, 50 feet tall, has been erected adjoining the beater room. New concrete stock chests have been added. Four steel defibering tanks and several latest type washers are being installed. Rotaries are to be used for cooking. The system devised by V. D. Simons, Chicago, is similar to that so successfully adopted in the Superior mill of the Bryant Paper Company. It will effect great economies in the preparation and handling of stock, will deliver stock of the proper consistency to the beaters and also result in a saving of approximately 300 horsepower in operation of that section of the Milham division.

Want to Locate Wood Pulp Mill in Seattle

SEATTLE, Wash., June 29, 1925.—Definite steps towards the financing and construction of a pulp mill in Seattle will be taken by the industrial committee of the Seattle Chamber of Commerce at its next meeting, R. F. Weeks, chairman, announced last week.

Burke Boles, who founded the Northwest Envelope Company here, will be present with eastern financiers who have made a study of the local situation and are prepared to submit a definite proposition, Mr. Weeks said.

"We have been able to prove conclusively to investors that properly financed and properly managed paper pulp mills in the Puget Sound country are financially sound and pay excellent dividends," said Mr. Weeks. "This industry is one which belongs to Puget Sound, and the committee is anxious to have a mill established here as it will attract similar plants."

To Make Public News Print Definition Soon

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 29, 1925.—Unless some unforeseen complications develop, it is believed that the revised definition of standard news print paper will be made public this week. While officials of the Department refuse to discuss the matter until the definition has been formally signed by the Secretary of the Treasury it is believed that some relief has been granted to domestic manufacturers.

Speculation in Montreal Regarding News Print Prices

Report that Belgo-Canadian Paper Co. Is to Sell at $65 Per Ton from Jan. 1 Is Confirmed by President Hubert Biermans—Increased Interest in the Enormous Hydro-Electric Development by Duke-Price Interests Caused by Steady Buying of Company Shares on Montreal Exchange

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., June 29, 1925.—There is still much speculation here regarding the future price of news print following upon the statement that the Belgo-Canadian Paper Company has decided to reduce the price to $65 per ton from the 1st of January next. There were many who could not believe that the company would announce its price so far ahead and who expected that a denial would be forthcoming. Hubert Biermans, the president of the company, however, has confirmed the announcement stating that the firm had notified its customers that news print supplied on a contract basis would be reduced from $70 to $65 a year in January next. Mr. Biermans further explained in answer to the question that his customers appeared to be content to have the $70 price maintained for the present year. Some news print men here think that conditions do not warrant a reduction, while others point to the large additional amount of tonnage which is coming into the market within the next 6 months and say that this is bound to have a weakening effect on the price. The price of $65 per ton is exactly one half of the peak price of $130 which was reached in the first quarter of the year 1921. The price slumped to $110 for the second quarter of that year, with a further drop to $95 for the third and to $80 for the fourth, making a net decline of $50 for the year. Taken as a whole, the prospective price of $65 a ton does not appear to occasion much alarm, and it should be pointed out that this is still between 60 and 70 per cent above the prevailing price before the war, when news print was sold at $38 a ton delivered.

The Duke-Price Development

Increased interest in the enormous hydro-electric development being carried out at the head waters of the Saguenay River by the Duke-Price interests has been caused by the steady buying of the shares of the company in $100 lots on the Montreal Stock Exchange. This buying, it is rumored, has been for the interests of Lord Beaverbrook. An interesting story is heard in connection with the company and the power developments of the Duke-Price Power Company. It is stated that the Aluminum Company of America which now has an extensive plant at Messina Springs, N. Y., is planning to establish a Canadian branch on a large factory area in close proximity to the development of the Duke-Price Power Company. The purpose of this, it is explained, would be to look after the Canadian business and also to take care of exports to Great Britain, Australia, New Zealand, South Africa, etc., under the preferential tariff. The story has been further developed to take in a reported extension of the Duke-Price programme to include undeveloped water powers for industries other than Price Brothers new paper mills. New money would be required for this purpose and the story runs that Price Brothers may take into consideration the sale to the new interests of the 25 per cent stock ownership in the Duke-Price enterprise as it stands today. A very substantial figure is mentioned as the value of this equity. Apart altogether from any developments that may take place in the directions indicated above the company is producing steadily over 500 tons of news print daily, and is looking forward to an increase of this installed capacity to 700 tons by the end of the present year.

Australian Treaty Will Benefit Newsprint Mills

Ratification of the Australian trade treaty by the House of Commons, which would seem to leave the matter up to the Australian Government, granting that the Senate will pass the treaty, is of particular interest to the trade in view of the fact that one of the chief benefits which will accrue, if the treaty is finally put into force, will be that reaped by the news print producers of this country, who will have opened for them a market which consumes about 100,000 tons per year. With the free entry of news print into that country, instead of the present duty of £3, or nearly $15, per ton, producers of this country should be in a position to capture a good proportion of that business. British mills have for some time now been enjoying a special preference on news print and have to a considerable extent ousted Canadian mills, which at one time had a very substantial market in Australia. As an example of the decline in news print shipments from the Dominion to that country, it is interesting to note that for the eleven months ending February, 1922, shipments were valued at over two million dollars, while one year later this had fallen off to about $150,000, while for the eleven months ending February of this year total exports amounted to only about $50,000. In marked contrast to this is the case of New Zealand in which market Canada enjoys the same trade conditions as Britain, exports of news print from this country having shown an increase this year over last.

N. B. Lumber for American Market

The saw mills in New Brunswick are all running at full capacity and the majority of them are sawing for the American market owing to unfavorable conditions in Europe. Practically all the lumber carried over from last year has been sold, but a large quantity of this stock has been shipped. A very strong effort is being made by the lumbermen of New Brunswick to have the stumpage reduced and to have the scale on the same basis as that of the Province of Quebec.

To Hold Wood Utilization Conference

The Empire State Forest Products Association is cooperating with the New York State College of Forestry at Syracuse, N. Y., in calling a State-wide Wood Utilization Conference at Syracuse, N. Y., on Thursday, November 12, 1925.

The purpose of this conference is to bring together manufacturers and users of forest products to consider the problem of closer utilization, elimination of waste and the promotion of forestry in the state and nation.

This conference aims to do for New York what the National Conference on Utilization of Forest Products, held last November at Washington, did for the whole country.

Plans for this meeting are now being matured and it is hoped to have representatives of the leading wood-using associations. Men of national prominence also are being invited to address the meeting on the forest industries as related to the welfare of the state and nation. It is planned to hold the day-time sessions at the College of Forestry building.

J. W. Flint Buys Dever Bros. Paper Co.

MILWAUKEE, Wis., June 30, 1925.—Dever Brothers Paper Company, who have been doing business in Milwaukee for thirty years, changed ownership January, 1924, and is now under the guidance of J. Wyman Flint.

Mr. Flint is well equipped to handle the paper business owing to his knowledge of the manufacturing of wrapping paper. His father and he owned a large paper mill and Mr. Flint has had the opportunity to study in detail all angles of paper manufacturing.

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Toronto Paper Men Look for Gradual Improvement

Last Half of 1925, It is Confidently Believed, Will be Considerably Better than the First Half of the Year—Pulpwood Cutting Will be Carried On on a Large Scale During the Summer Months in the Thunder Bay District—Wood & Pulp Process, Ltd., to Increase Its Capital Stock

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., June 29, 1925.—There is not much change in business conditions in the pulp and paper line but there is a general feeling that the worst has now been experienced and that from this out there should be a gradual improvement. It is confidently believed that the last half of 1925 will be considerably better than the first half and each succeeding month should show an appreciable gain. There is no denying the fact that wholesalers and manufacturers of paper, outside of news print, have been disappointed at the volume done during the past few months. It is possible that too great expectations were held out at the beginning of the year and, results not coming up to anticipations, a reaction set in and confidence and optimism suffered as a consequence.

While no one expects that 1925 will be a banner year, yet it is believed that the outcome will be better than expected. Several wholesalers are now busy taking their inventories, their financial year ending on June 30. Stocks as a whole are rather low at the present time but are quite representative in character. The mills are doing a fair business and orders have been coming in a little more freely than for some weeks past. Costs have been reduced to the minimum and it is thought that prices are on a stable basis, there having been no revisions for some time.

The pulp market remains unchanged. Ground wood pulp is selling from $28.50 to $30, according to freight haul and there is a fair demand. Neither producers nor consumers have large stocks in hand. Bleached pulp is bringing from $75 to $80 and unbleached pulp from $60 to $65. The call is only fair at the present time. July and August are usually quiet months but nearly all members of the trade believe that the showing this midsummer will be equally as good as during the corresponding months in 1924 and that with the splendid harvest likely to be reaped in the Prairie provinces and the good crops in evidence throughout all Ontario, a change will come over the countryside, which will be reflected in the business done by the cities, in various lines of activity.

Cutting Pulpwood on Big Scale

Pulpwood cutting is going on on quite a large scale in the Thunder Bay district during the summer months, especially on the islands on the North Shore of Lake Superior. E. E. Johnson, president of the Pigeon Timber Company, Limited, Port Arthur, Ont., has several hundred men in the different camps on the limits which he purchased lately from the Government.

The peeling of the pulp is the new thing in those operations and the peeling season will last about three months. It is expected that pulpwood will be as economically cut in summer as in winter, in other than swampy country. Where peeled pulpwood is freighted, the saving will be considerable. A better price is also being received for the wood and owing to its being peeled, a great saving of work is made at the mill.

Sold Many Timber Limits

The Ontario government through its Department of Lands and Forests sold 3,134 square miles of timber limits during the year 1924. The biggest sale was to the Abitibi Power and Paper Company, of Iroquois Falls. The locality of the timber limit is in Cochrane district and the area is 2,466 square miles. The order-in-council approving the sale is dated July 16th, 1924. The limit is composed of pulpwood and the rates are to be fixed from time to time by the lieutenant governor in council. "Present rates spruce pulpwood 80 cents per cord, other pulpwood 40 cents per cord." The report of the minister of Lands and Forests shows that in 1924 a great area of Ontario timberlands was sold.

Increasing Capital Stock of Company

Wood & Pulp Process, Limited, Thorold, Ont., has by supplementary letters patent been given authority to increase the capital stock of the company by the creation of 850 preference shares of a par value of $100 per share, the capital of the company to be, at least, equal to the sum of the aggregate par value of all issued shares having par value plus the aggregate amount of consideration received by the company for the issuing of shares without par value plus such amounts as from time to time by bylaw of the company may be transferred thereto.

Location of New Western Mill

The question of the location of the Spanish River Pulp & Paper Mills was discussed at a meeting of the Executive of the Industrial Development Board which met recently in Winnipeg. An invitation had been extended the engineers of the company to meet with the Board and talk over the question with them. Gratification was expressed over the proposed establishment of the mills in Manitoba and the arguments which will be used in favor of Greater Winnipeg as a site will be based on economic principles and not on sentiment, the Board stated.

Notes and Jottings of the Industry

G. D. Falkenburg, of Price Bros. & Co., Limited, Quebec, spent a few days in Toronto recently calling upon the trade.

S. R. Armstrong, of the Mattagami Pulp and Paper Company, Smooth Rock Falls, Ont., spent a few days at the head office in Toronto lately.

Capt. Heber Sharpe, of the head office staff of the Provincial Paper Mills Company, Toronto, who is a member of the Mississauga Horse, is spending some time in camp at Niagara-on-the-Lake.

Improvements are being carried out to the plant of the Provincial Paper Mills at Georgetown, Ont. A new high speed engine and electric generator are being installed and a new roof will be placed on No. 1 machine room.

At the recent convention of the Ontario Retail Grocers' Association, held in the King Edward Hotel, Toronto, interesting displays were made by Kilgour Bros., manufacturers of paper boxes, Toronto, and by the Interlake Tissue Mills, Merritton, Ont.

The fiscal year of the Spanish River Pulp and Paper Mills ends June 30 and while definite figures are not yet available, it is understood from sources close to the company that a surplus of at least $1,000,000 over preferred and common dividend requirements, will be shown.

The Department of Lands and Forests of Ontario are calling for new tenders for certain pulpwood and timber limits, to be received up to September 10. These pulpwood limits are on the East and West sides of Lake Nipigon, Thunder Bay district; the watershed of Kapuskasing River; the watershed of Mattagami River district and the watershed of Ground Hog River, all in the district of Cochrane.

A heavy block of wood fell recently from an overhead conveyor at the pulp mill of the Spanish River Pulp and Paper Mills at Sturgeon Falls, Ont., and hit A. Legace on the head, killing him instantly. He was 30 years of age and married.

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Neenah, Wis.—The Kimberly-Clark Company has awarded a general contract to the Wisconsin Engineering and Construction Company, Bellin Building, Green Bay, Wis., for the erection of its proposed new addition, to be five-story and basement, brick and concrete, 82 x 90 feet, to be equipped for general increase in capacity.

Buffalo, N. Y.—The Buffalo Box Company, 2-20 Scoville street, manufacturer of corrugated fiber boxes and containers, has taken out a permit to erect a new addition to its plant, to be one-story, 80 x 100 feet, estimated to cost $50,000, with equipment. A general building contract has been awarded to Crooker & Carpenter, Crosby Building. Bley & Lyman, 531 Delaware avenue, are architects. J. B. Venton is one of the heads of the company in charge.

Port Crescent, Mich.—The Port Crescent Sand and Paper Company has been making improvements and extensions in its plant and properties, particularly in connection with sand deposits, used for sandpaper manufacturers, etc., where a fund of $75,000 has been expended up to the present time for improved loading and other operating equipment. The company expects to develop this department of its business to a maximum of about 500,000 tons of material during the summer months.

East Providence, R. I.—Bird & Sons, Inc., East Walpole, Mass., manufacturer of paper products, etc., including roofing, has plans under way for the erection of a new two-story building on local site, to be used primarily for storage and distributing service, estimated to cost $150,000. Monks & Johnson, 99 Chauncey street, Boston, Mass., are engineers.

Philadelphia, Pa.—Fire, June 20, damaged a portion of the plant of the Philadelphia Paper Manufacturing Company, Nixon street, near Fountain street, Manayunk, with damage confined to the storage department. An official estimate of loss has not been made.

Bastrop, La.—The Louisiana Pulp and Paper Company is pushing construction on its new pulp and paper mill in this section and expects to have the initial unit ready for operation early in the fall. The plant will be given over to the production of kraft papers and will have an output of about 150 tons per day, with installation consisting of two high speed Fourdrinier paper machines and accessory equipment. The plant has been in course of construction for a number of months past and will represent a stated investment in excess of $500,000. The company has extensive timber properties in this district, totaling 200,000 acres of land, and will provide complete facilities for pulpwood production. R. J. Cullin is vice-president and general manager.

Minneapolis, Minn.—The Crosby-Wirth Sales Book Company, 422 Washington avenue, North, manufacturer of paper goods, has rejected bids recently received for the erection of a proposed new factory addition at Sixteenth and Washington avenues, North, and will hold the project in temporary abeyance. The plant extension has been designed as one- and two-story and basement, 110 x 145 ft., estimated to cost $50,000.

Nutley, N. J.—The Factory Associates, Inc., has acquired the local plant recently given over to the manufacture of paper at Passaic avenue and Kingsland Road, owned by E. I. du Pont de Nemours & Company, and will take possession at an early date. The property consists of 16 acres of land and water rights on Kingsland Lake, with buildings of one-, two,- and three-story heights, aggregating 40,000 sq. ft. of floor space. The new owner has not yet announced plans for proposed operations.

Chillicothe, Ohio—The Meade Pulp and Paper Company is said to have completed plans for the erection of a new two-story addition to its mill, 60 x 300 feet, and will begin superstructure work at an early date. It will be used for general expansion in production.

Winnipeg, Man.—The Spanish River Pulp and Paper Mills, Ltd., Espanola, Ontario, has plans under way for the construction of a new pulp and paper mill in this section, to be devoted to the production of news print. It will consist of several units, with power house, machine shop and auxilliary structures, designed for an initial daily output of 200 tons per day. The project is reported to cost in excess of $2,500,000, with machinery. The company also operates the Fort William Paper Company Fort William, Ont.

Annapolis Royal, N. S.—Frank D. J. Barnjum, Annapolis Royal, and associates are said to be perfecting plans for the construction of a new pulp and paper mill on the Mersey River in Nova Scotia, for which a site has been selected. The proposed plant will comprise a number of operating units, equipped for an output of about 200 tons of paper per day. It will include a hydroelectric power plant with rated capacity of close to 75,000 h.p., to be used for mill operation and other service in this district. The entire project is expected to involve close to $5,000,000.

New Companies

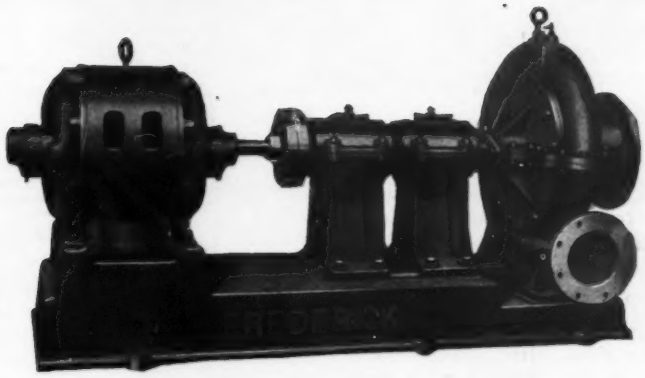
New York, N. Y.—The Emerson Paper Mills, Inc., has been incorporated with a capital of $20,000, to manufacture paper goods. The incorporators are E. Kraychie, A. Skillman and A. T. Burroughs. The company is represented by Herman Goodman, 120 Broadway, New York.

Brooklyn, N. Y.—Beards, Inc., has been incorporated with a capital of $10,000, to manufacture paper boxes, containers and kindred products. The incorporators are J. Beards, L. Geller and C. Katz. The company is represented by L. V. Shavrien, 50 Court street, Brooklyn.

Bayonne, N. J.—S. Suskind & Co., Inc., has been incorporated with a capital of 100 shares of stock, no par value, to deal in paper products. The incorporators are Charles H. Dembe and Samuel D. Lewin. The company is represented by Dembe & Dembe, 861 Broadway, Bayonne.

Chicago, Ill—The Chicago Board Manufacturing Company, 4420 North Western avenue, has been incorporated with a capital of $40,000, to manufacture paper board and kindred products. The incorporators are Julius Gould, Jacob Katz, and L. Mitchell. The

FREDERICK PUMPS



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company is represented by Holland & Shuchter, 160 North La Salle street, Chicago.

New York, N. Y.—Herbert Paper Stock, Inc., has been incorporated with a capital of $10,000, to deal in paper goods. The incorporators are A. Depasquale and N. Doddato. The company is represented by M. W. Grady, 1 Pershing Square, New York.

New York, N. Y.—The Prompt Paper Box Company has been incorporated with a nominal capital of $5,000, to manufacture and deal in paper boxes, and containers. The incorporators are I. V. Schavrien and H. Epstein. The company is represented by J. A. Weiss, 50 Court street, New York.

Chicago, Ill.—The David G. Maxwell Company, 44th street and Racine avenue, has been incorporated with a capital of $100,000, to manufacture paper and other containers. The incorporators are A. S. McCabe, Charles E. Clark, and William Yardley. The company is represented by Henry J. & Charles Aaron, 76 West Monroe street, Chicago.

Financial

New York, N. Y.—The Standard Sample Card Company, 134 Spring Street, has arranged for an increase in capital from $20,000 to $40,000, for general expansion.

New York, N. Y.—The Newsprint Paper Corporation has filed notice of dissolution under States laws.

New York, N. Y.—Joseph Michaelis, receiver for the De Lux Paper Company, Inc., 121 Spring street, against which an involuntary petition in bankruptcy recently was filed, has arranged for the sale of the property of the company.

Accident at Rollstone Paper Mill

FITCHBURG, Mass., June 30, 1925.—A fly wheel on the engine driving the paper machine at the plant of the Rollstone Paper Company blew out about 4 o'clock last Friday morning doing considerable damage. The machine was running at the time but fortunately no one was hurt.

Louis T. Stevenson, president of the company, was in Boston at the time and, immediately upon notification of the accident, came here accompanied by H. M. Wheelwright, the company's treasurer.

Investigation has failed to reveal the cause of the accident but it is surmised that the governor went bad. A piece of the fly wheel weighing about 1,000 pounds was thrown through the roof to the distance of about 400 feet, landing under the Fifth avenue bridge. The damage was about $7,500 covered by insurance. Repairs have been made and operating of the machine is scheduled for Thursday of this week.

Receiver to Continue Operating Uncas Mill

NORWICH, Conn., June 26, 1925.—Upon the showing made by the receiver in court today of the operation of the plant of the Uncas Paperboard Company for the past three months, an order was issued to continue the operation of the mill under the receivership for the next four months.

A four months' period is the longest time that a receiver is permitted to operate under the Connecticut law without further order from court. This period will expire October 29, 1925.

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., July 1, 1925.—The Government Printing Office will receive bids on July 6 for 2,210 pounds (500 reams) of 8 x 10½ mimeograph paper.

Barton, Duer & Koch Paper Company has been awarded the contract for furnishing the Government Printing Office with 20,000 pounds (24,000 sheets) of No. 2 quality, 25 x 30—No. 60 binders board at 3.6875 cents per pound, bids for which were received on June 10.

New York Trade Jottings

Fred Baker, importer of foreign papers, has moved from 220 East 20th street to 125 Church street.

* * *

The Scandinavian Pulp Agency, Inc., has leased additional space in the Canadian Pacific Building, 342 Madison avenue.

* * *

At the meeting of the Binders Board Manufacturers' Association held last week at the Canadian Club it was decided to take up the simplification of sizes, weights, numbers, etc., through the Division of Simplified Practice of the Department of Commerce.

* * *

Fred A. Leahy, vice president of the Eastern Manufacturing Company, arrived from Genoa Tuesday after having spent two months abroad. W. J. Garrity and G. H. Attfield of the same concern sailed yesterday on the Aquitania for a short trip abroad.

* * *

The Salesmen's Association omitted its weekly luncheon this week and the great event the members are centering their attention on comes on Tuesday, July 7, when they go to the grounds of the White Beeches Golf Club, Haworth, N. J., to play their finals in the golf tournament for the National cup being contested for by all the divisions.

News of the Boston Trade

BOSTON, Mass., June 29, 1925.—While the month of June has been far from a record-breaking one it has gone ahead, in most cases, of June 1924. This is the concensus of many of the leading merchants here. Business still is far from normal in the Boston district and reports being brought in by salesmen from the outlying districts report similar conditions with mills running a very close schedule.

Still, there are no houses going out of business. Few layoffs are reported. Here and there one hears of a reduction in the personnel of certain sales staffs. Of course each house is running close. An economy wave is on but actual "failures" are not heard of. Some of the so-called "war babies"—houses that made plenty of money in war days—are reported being near the end of their reserves and it is said to be only a question of time how long they will be able to hold on.

The past week has been an unusually quiet one. All branches of the trade report small orders to regular customers. Printers' demands show a slight falling off in the fine grades. There seems to be little demand for Kraft and other coarse grades. The paper box men say business is "fair" with all indications pointing to "better times" in the Fall.

The rag and paper stock business is very dull, the survey shows, one salesman chalking up three small orders for the week "and one of these was cancelled when I got back to the office" said this salesman. Men in this branch of the trade also are banking much on contemplated Fall business.

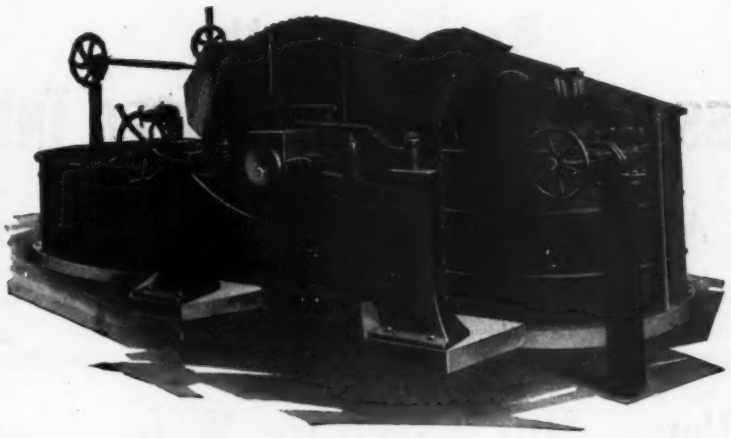
Wax papers and summer specialties continue to be bright spots in the trade and roofing stock has a nearly normal demand.

Mr. Stevenson vice-president of Storrs & Bement Company goes away this week for a month's vacation and John Hurd manager of the sales promotion department sails with his family on Saturday aboard the *Leviathan* for a two months' tour abroad.

The men folks of the Andrews Paper Company enjoyed their annual outing this past week at Warhurst where 30 members of the force enpoyed an afternoon and evening of sports and entertainment. At the dinner F. H. Merrill and F. C. Cate spoke on trade matters. John F. Kuster, treasurer of the company was chairman of the affair. The lady members of the Andrews staff had their outing last Saturday at Nantasket Beach.

E. C. Walker of the Collins Manufacturing Company of Holyoke was a visitor in trade quarters this week.

"Your paper is made



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What the Paper Mill Executive Wants From the Cost Accountant*

By W. W. Sunderland, Pres., Miami Paper Co., West Carrollton, Ohio.

I am not going to make a speech. I want to make a few remarks and so, in order to confine my talk to a reasonable length of time, I have put it down on paper. Otherwise, I might talk too long and tire you out.

I want to comment first on the work of the Cost Association. I have not been very closely in touch with it but from what I hear I think you are doing a very fine work, and it is a very hard work to do. I presume you have found it true, and it has been my observation, that every cost accountant and every executive and every business has a different idea of what they want in bookkeeping, and what they want in cost accounting, and each one has different conditions to contend with. So that there is no wonder that we have a lot of different ideas about it. I imagine, too, that cost accounting, to best fit any conditions, is an outgrowth of conditions in a particular plant. I know my theories of cost accounting have grown up from conditions in our own mill and they are worked out very largely to answer the questions that we have needed to know in order to get the best results out of our orders and to get the best idea of what the cost of these orders would be, when we came to make them. So that we probably have a system that is entirely different from anybody else's system.

But I do think there are some things that you cost accountants have been working on and I am rather of the opinion that you have not accomplished all that you have wanted to do, because of the difficulties in the way, and perhaps because of those very things that I have spoken about—the difference in ideas in different plants. I think, however, that there are probably two radically different ideas of cost accounting. I think you men from New England have a certain plan of cost accounting which has been developed to meet the conditions that you have foreseen, and we fellows out West seem to have an entirely different way of going about it.

I think to describe the real difference between the two is to say that you folks develop your costs from the detail up, and we have a way of developing our costs from the total down, and whatever details we want we develop downward. In some cases in the West we don't enter into anywhere near as much detail as you men do down East.

Now I believe if you are to have anything of uniformity in the way of cost accounting, that is, uniformity in results, which is the thing you are driving for, that you have got to find some way to arrive at the same results although you fellows down East start from one point, and the fellows from the West start from another point. If your results are approximately the same, then you will have attained what you are driving for. And I think your problem is not to find some uniform methods of doing a thing, but to find what these different methods are, particularly those two which start from entirely different points, and then see if you can find out whether they will attain the same results. If not, why not? If you can work that out, you won't have to ask anybody, to change their entire system to conform to any other system, which, you have probably found out, is almost an impossible thing to do.

Now I believe my subject for this afternoon was to be the subject of what the paper mill executive wants to know from the cost accountant, and I am going to give you, in a short time, by reading, my idea of this situation. It is not going to take in everything but it is going to take in some of the high spots, for, this is too large a subject to take the whole thing in.

I would first like to make some general observations on the purposes of life and business.

The Purposes of Life and Business

It may not be out of place for me to mention first that the real purpose in a man's life should not be to make money, or that he should depend for his happiness upon the things which money will buy. I believe that every man should have a definite and worthy purpose in life and that he should relate his vocation in life to that purpose. To be sure, most of us must work six days a week, we say, to earn our living. If we enjoy our job and we have a real purpose in it, we do more than earn a living in our vocation.

I believe that the purpose should be to make better and bigger men; that we should use our talents to the utmost, not only in our vocation but, also, in helping others to be bigger and better men and women. The aim we are striving for in this world and the next is happiness. We desire that happiness for ourselves and as it should be free from pure selfishness, we should desire to aid others to secure that happiness. To be happy we must grow and make constant progress. We are not content with

* Delivered at the Convention of the Cost Association of the Paper Industry, Middletown, Ohio, May 22, 1925.

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doing the same things today that we did last week in the same old way and we are not content with the same results. We get tired of it—it becomes monotonous.

Growth in a business sense, and when thinking about dollars and cents, we describe as profit. Now since the law of life,—moral, mental and physical, is progress, it is certainly true that the law of business is profit. If progress ceases or if profit ceases we are dead ones though we may not know it, and as I heard Senator Ferris remark in a speech the other night "When we become dead ones we would better be buried in the cemetery where we do not retard the progress of others."

Progress, Growth and Profits

The life of any commercial or industrial plant or paper mill depends positively upon their progress and growth. No Paper mill can stand still. Their plant may be substantial and well built but if the management does not put in new improvements every year, the plant soon cannot compete with other plants in quality or cost. Progress and growth depend upon profits.

A paper mill is dependent upon profits to a greater degree than most industrial plants, for the reason that their machinery requires greater maintenance, and due to the rapid progress in the Printing Art at the present time, greater changes in machinery equipment of the paper mill are required now than ever before. Provision must be made for a larger maintenance charge in our operating costs and to pay for the new equipment, charging off the old equipment into obsolescence.

Our old ideas of profits must be re-vamped. It takes about $1.60 today to buy what a dollar bought in 1914. Add to this, provision for improvements and rapid obsolescence. The profits required today should be figured probably twice what they were in 1914.

Purpose of Business

Every investor in the stock of an industrial company or paper mill had one definite thought in mind in buying that stock,—the dividend. The purpose of such an investment was to secure regular, quarterly, semi-annual or annual dividends and to feel secure that these dividends would be paid at each dividend paying period over a number of years, and the stockholder has a right to expect that. The Bond holder, when he buys bonds, has a right to expect his interest at the interest bearing period and has a right to expect that the bonds will be paid on maturity, and these are the first considerations in a business. Therefore, the purpose of business is distinctly to make a profit on the capital invested and that that profit shall be regular from year to year. The aim and purpose of management is to further this purpose of business, namely, the making of profits. So that in any calculation made profits should take first place. Other things are all done for that reason. All other things done are the means to the end of making a profit.

The Executive's Job

Now an executive has certain factors to deal with, namely, plant, personnel, product and market, and his problem is how to manipulate these factors to produce the profits. His job consists in buying and selling and making and maintaining his plant to the highest efficiency and in dealing with his personnel. Therefore, this executive is going to be and is a very busy man and delegates much of his work to others. Frequently he has separate departments and it is not always easy for him to get these departments to work in co-operation, as their tendencies are diametrically opposed.

The Cost Accountant's Job

The Cost Accountant's job is to furnish all kinds of information (note I say all kinds of information, figures and otherwise), which may assist the mill executive in making these profits, and since the mill executive is continually endeavoring to progress, some times in installing new machinery or improving the old machinery, some times in better methods of manufacture, and since the executive is frequently pushed in his market situation to make better paper at a lower cost, the cost accountant must keep right up with the ideas and purposes of the management.

I wrote this a week ago, but it seems to fit in with the remarks Mr. Reilly made a moment ago, to take advantage of the changes constantly occurring. Some of them you can't forecast.

Salesmen must sell paper in competition with other mills. Price on the paper is not always consistent with the cost to make as it is regulated largely by supply and demand. The executive is frequently faced with the contingency of reducing a price or losing the order. Losing the order may mean shutting down the mill. In this contingency of what use can the cost accountant be to his executive? The usual procedure is to determine that the order probably will have to be taken any way. The executive shuts his eyes, takes it, and hopes for the best, and probably makes a loss when he runs it. If the cost accountant is brought into the situation at this point, the executive might say: "It looks to me like we would have to make this order." "Now let's find a way to make the order so that we can still make a profit on it." And it would be up to the cost accountant to prepare figures and assist the executive in doing so.

Up Against Changing Conditions

Now the mill executive finds himself up against varying and changing conditions all the time, whether it be as to mill production or a rise in the cost of his raw materials or a slowing up in his paper market, and his job is to so manipulate his factors that he may still make a profit regardless of these conditions. If not a maximum profit; at least, a minimum profit, so that any information which the cost accountant collects and which does not keep up to date, is of no use and will not serve any useful purpose in securing orders or in making profits in the mill. To keep up to date is of increasing importance from now on, for it will probably be true that each succeeding year will be quite different than the preceding one. The changes may come so rapidly that normal facts, figures and costs of the preceding year would be entirely out of date; that the cost of a preceding six months might be out of date and that costs would have to be revised at least every three months. The object certainly should be to forecast the cost of a given order when it is made, taking into account the changing conditions and forecasting what the probable conditions will be when the order is made.

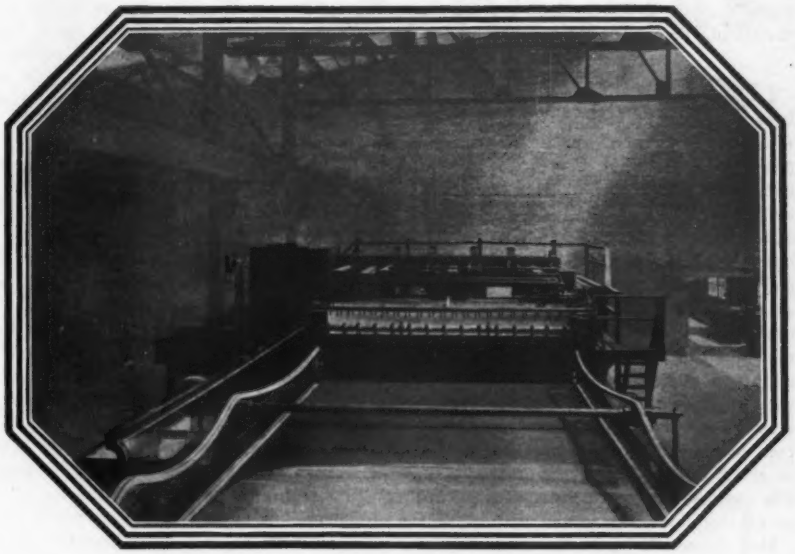
Criticism of Present Methods

My criticism of the present methods, as I understand them, is that a past average experience is used to project the forecast of prices in the future without regard to the progressive plans and purposes of the mill executive, and probably without even knowing what these plans are or that any even exist. Therefore, in many cases where there is keen competition, the cost delivered by the cost accountant is disregarded altogether and becomes of no use. If, in that case, the executive himself attempted to readjust the cost accountant's figures, based upon his knowledge that methods or new equipment will make a lower cost, the cost accountant's figures then might be of some value. The probability is, however, that the executive has neither the time nor inclination to do that. It ought to be done by the cost accountant.

Executives pay no attention to cost when market conditions are abnormal, for the demand for goods produces a higher price and an abnormal profit. But, costs are disregarded when competition forces prices down below cost. Now if costs are not used in either case, they are used possibly only a small part of the time. Costs ought to be used all the time and every sale ought to be related to the cost at the time the goods are made.

My observation is that our costs increase in both abnormal and subnormal markets, unless great care is exercised to keep costs in hand at those periods. If costs are not used, why secure cost?

The New England mills have gone into cost quite extensively.



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APPLETON, WISCONSIN

New York Office: 350 Madison Ave.

Many Western mills have not. This observation is dated back 3 years ago. How they do now I don't know, but I presume they don't do much different than they did then. As many of these Western mills have been very successful and some of the New England mills who have made a great point of cost, have not been successful, the case of the cost accountant is apparently disproved.

Trusting to Luck to Make Money

I can remember the time not very long ago when no paper mill knew the cost to make any particular kind or weight of paper. I knew a very successful Board Mill man who sold his product purely by endeavoring to get at least the market price or a little better, trusting to luck that he would make some money. I was in the office of this same man one time, when he had some memo orders in his pocket and called in his superintendent to see which one of these orders, if any, they wanted to accept. The first order they rejected as being without profit in their judgment,—the costs all being by guess as they had no figures whatever. Inquiry was made as to how many orders they had to run. When it was found that they had only a few days' orders, this order took on a different aspect as to whether it was profitable or not and was accepted with thanks. Approximately the way these old fellows judged their business was to have a monthly inventory and to find out then whether they made money or not and no attempt was made to check costs or profits on different kinds or weights of paper. The average was moved up or down, according to the profits shown or whether there was any increase in the cost of materials or labor.

Had these fellows, in discussing it, said, "Now this costs us so much money. It is better for us to make this at a loss than to shut down our plant," then there would have been some real point about their determination; but they adjusted their cost according to the number of orders on their books.

This had some advantages over the retrospective cost system in vogue at the present because the old paper mill executive would attempt to bring up his prices when he anticipated any advances in his cost,—his cost being an average over a period. One great difficulty about this situation was that there was a great diversity of opinion about costs and prices among these manufacturers. Therefore, there was a wide difference in prices at times, which has led to your idea of attempting to have some uniform method of cost finding, so that the facts, when analyzed, will produce about the same conclusion.

Production of paper is now getting on a much more stable basis than it used to be. It has increased many times with a natural tendency of constantly lesser prices and a lesser margin between the cost of material and the selling price. As a matter of fact, cost of materials constantly tends to rise and the selling price tends constantly to fall, and in this margin between the two the mill must find its cost and profit.

I remember very distinctly some twenty-five years ago the president of a certain paper mill figured the cost of his two principal grades of product. His estimate carried out, showed that this mill, which was capitalized for $600,000 should make a profit of $150,000 per year. Their profits had been regularly $100,000 per year. He regarded the $100,000 period of profit as entirely satisfactory, and would not consent to an earnest attempt to get the other $50,000 profit. But later, under the press of an increase in cost of materials, and a lower selling price, they were forced to cut the cost of their conversion, which they did.

The Cost Accountant's Function

Now, specifically, what is the cost accountant's functions? It occurs to me they are as follows:

First: To sit with the executive of the mill and furnish him with data and figures in reference to cost of production and help the executive in his progressive efforts to increase production and lower cost.

Second: To work with the executive in a method of handling the orders in the plant to get the best production and the lowest cost.

Third: To break down factory costs to determine the cost of an individual order or grade or weight of paper.

These estimates which to be used primarily in making prices, should be based upon the best available forecast of conditions of operation in the mill at the time the order is to be made, and as conditions are constantly changing and varying, cost will vary accordingly. When the executive has completed estimates of this character to deal with, he has better facts from which to form his judgment in making prices and the character of orders to take.

Demand Never Uniform

An outstanding feature in a paper mill is the fact that it costs almost as much to shut down as it does to run; therefore, most paper mill executives will cut price to get orders rather than to shut down. Now it happens that almost every industry in the United States is equipped to make from 20 to 30 per cent more than the average demand. Demand is never uniform throughout the year or over a period of years. Paper mill executives know how to make money in a sellers' market but we lose money when orders get scarce. We need to find some method to make at least a minimum profit in a buyer's market.

The total volume of business today, as reported by statisticians, is good, but it is not abnormal. It is approximately normal. That is to say, there is not quite enough business taken over the year as a whole to operate the paper mills three hundred days. It is probably equal to about 80 per cent or short about three to four weeks' operation for the paper mills over the year.

The past year we have had three to four months of good business, followed by three to four months of subnormal business.

The paper mill must work out the problem of making a minimum profit, at least, when markets are depressed and I believe that is one of the big problems for the cost accountant.

Profits Based on What Can Be Sold

This leads me to the statement that costs and profits should be based upon what you can sell and not on what you can make. The present theory of the cost accountant is based upon what can be made.

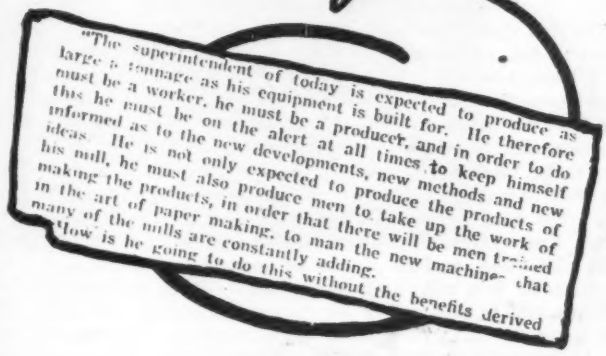
Some six months ago I attended a budget meeting in which this proposition was set up: The board of directors of a certain company had a meeting in June, 1924, at which time they decided that the profits required for dividends, bond interest, depreciation and reserve, should be two and one-half million dollars. The president first called in his sales department for their estimate of sales for the year 1925 which they set at fifteen million dollars. The president knew that he could not make two and one-half million dollars profit on fifteen million dollar sales; therefore, three months of intensive effort was made among sales agents to increase the sales for 1925, after which a program was set up of twenty-five million dollars of sales. This figure was then taken to the cost department, together with an approximate list of goods to be made, and the cost department figured out the cost based upon the quantity they expected to sell in 1925. It was found upon checking it up that the plant had a capacity of more than 100 per cent for part of the goods to be made and less than 100 per cent for another part of the goods, so that additional equipment was required in the plant and there would also be a part only partially used in 1925. The cost department found they were unable to make the two and one-half million dollars profit on the twenty-five million dollar sales. Then the production department was called on in an intensive effort to reduce the costs on certain articles to meet the market situation and produce the profit. To my way of thinking, this is a logical and consecutive order of handling a cost accounting system, together with a budgetary control. It is projecting the cost according to forecasted conditions.

Now I imagine somebody will say that this will not apply to the paper business. With some variation I believe it will. The seasonal feature of the paper business has never been definitely recognized. However, we probably have five months of full ca-

LOST 595-Man Hours 153-Tons Paper

Through OBSOLETE Equipment

Don't Blame the "Super"


"The superintendent of today is expected to produce as large a tonnage as his equipment is built for. He therefore must be a worker, he must be a producer, and in order to do this he must be on the alert at all times to keep himself informed as to the new developments, new methods and new ideas. He is not only expected to produce the products of his mill, he must also produce men to take up the work of making the products, in order that there will be men trained in the art of paper making, to man the new machines that many of the mills are constantly adding.
"How is he going to do this without the benefits derived

YOUR "super" cannot be held accountable for being unable to keep up with competition when he is being handicapped by operating with obsolete equipment. Ask your superintendent what he thinks of the NEW BELOIT, the machine that saves three hours of valuable production time with every wire change. Ask him if it would help him in keeping his records efficient were he to have advantage of the speed of the NEW BELOIT, which, in many cases runs at 700 feet per minute, with only one wire change in three months. In addition to saving productive time, there is the further saving of 35 man hours with each wire change and the 153 tons of increased production that comes with it.

These are only a small part of the savings that can be effected. The smoothness of operation saves wear and tear. The depreciation is quite small and the assured life of the NEW BELOIT, because of the better materials and the more scientific engineering principles involved, will insure you freedom from obsolescence far greater than in the machinery of former days.

Now is the time to investigate. Put your problem up to us. Get the facts. Bulletin No. 9 will help you. Send for it.

The NEW BELOIT FOURDRINIER

Beloit Iron Works — **Beloit, Wis., U.S.A.**

Established — Since 1858

pacity business in the fall with a dull summer and a dull period about the holidays in the winter, just preceding the January 1st inventory period. In some paper lines this is true due to certain seasonal features in the lines in which paper is used. In the case of magazines, issues are usually larger in the spring and in the fall when advertising is greatest. Catalogs have their seasonal demand. The use of paper is largely seasonal due to the fact that there is decided spring and fall seasons in clothing, food-stuffs, etc. If the seasonal feature of the paper mill demand were studied, analyzed and recognized, the probable forecast of trend of a succeeding year could be calculated in a manner similar to the work done at the General Motors Corporation and a real, constructive effort made to stabilize the business.

A plan might be devised for a shut down of say two to three weeks in the summer period and about one week during the holidays. This would probably equalize supply and demand in normal years and could be adjusted by forecast from year to year, based upon a careful analysis in the fall as to what the probable general trend of business would be for the following year.

Cost Association Has Done Good Work

The Cost Association has done some good, admirable work in an effort to find a uniform method of cost finding in mills. So far as I know, however, your theory to work this out has been to superimpose the method imposed in New England and I believe you have not been very successful in imposing this method upon Western mills. I believe there are several reasons for it:

1st: The Western mill executive will say: "Show me where I can make more money by using this method and I will talk to you." But, you have not been able to show him.

2nd: Your system is too complicated.

3rd: To change methods of cost accounting upsets all the comparative data in a mill. It is an extremely difficult thing to get even one mill to change their cost accounting methods and there is a reason for that. It would be like an American attempting to pay his purchases over in London in Sterling and Pounds and trying to keep track of it in dollars and cents. Or, a person attemping to talk in German and to think in English.

You have two mills under the same management within a stone's throw of this hotel,—the Oglesby and Sorg mills. The Sorg mill employs the Western method; the Oglesby mill employs the New England method. These officials will not change the method in either mill because each method works best in its place and they are used to it.

Mill Must Use Its Own Methods

If you want to find some uniform method of accounting, you will have to proceed in a different way. You will have to permit a mill to use its own method. You may correct errors in this method but you will have to find a way to get the same results from whatever method is used, and I believe that it is possible to do this, providing you make a study along that line.

I believe in order to attain the end you are aiming for in your association you should find the differences in the different methods, and then find a way to arrive at the same place.

The paper mill executive is probably a man between the devil and the deep blue sea. He must satisfy his directors in making a profit. Alibies about the business situation will not satisfy the demands of stockholders for dividends. He must have the kind of information which will permit him to sell his product in a competitive market. He must constantly make a better product and sell it at a lower price so that he must find a way between the pressure on both sides to produce a profit under all circumstances which will be satisfactory to his capital demand.

G. Charter Harrison criticises the accountant and says he has been working along retrospective lines, preparing statements showing the results of operations and fulfilling the functions of a business historian. A business historian is not an interesting factor to a paper mill executive, and does not help him to operate his business on a profitable basis. Foresight is an absolute necessity. Therefore, the viewpoint of the paper mill executive and the accountant as a historian are diametrically opposed; the one is looking to the present and the future and the other to the past.

Tendency to Follow Line of Least Resistance

The tendency of the cost accountant to follow the line of least resistance and develop his system on retrospective lines has also developed a further tendency to detailed analyses so that cost accounting is becoming more and more elaborate. The result of all this is toward a misdirected energy and in the accumulation of a mass of figures which are of very little constructive value. A statement in the greatest detail, showing comparisons of costs with past periods, are of limited value to a progressive, aggressive paper mill executive for he has in the meantime changed his methods and his machines to such an extent that comparisons with previous results are no longer of any value. He has set up a new basis for production and efficiency. So that he is interested in knowing only whether he has attained what he aimed to do, rather than to know how he compares with any previous period.

G. Charter Harrison makes the statement that: "The prime purpose of management is the earning of maximum profits and the value of a cost system is to guide the management to that purpose, to be in on the planning and all the steps, and to point out from step to step where the management's efforts have fallen short in their aims or purposes."

Progressive Executive Will Ask Many Questions

If the paper mill executive is progressive and forward looking, he is going to ask many questions of *why*. A cost accountant should have his situation so well in hand that these questions can be answered in a simple way and in a satisfactory way to guide the executive in making corrections, either as to his budget, his production, his sales prices, the character or kind of goods he is making or any other factor which influences his maximum profits. He needs to get at the root of the trouble with the least effort and correct it in the quickest possible time. The cost accountant, therefore, should have five functions:

1st: To furnish facts and figures in forward planning.

2nd: To budget and keep expenditures under control.

3d: To budget all planning to see that plans projected by the management are progressing according to schedule and are producing results.

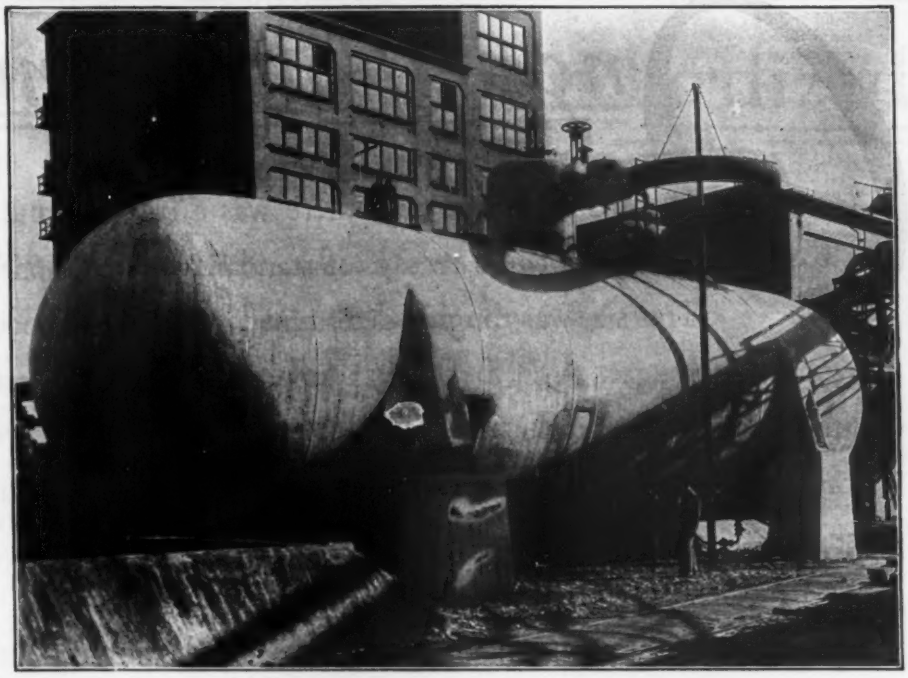
I would like to say something on that point, apart from this statement: How many times do men in a paper mill, or any other industry, sit around a table, talk constructive planning, figure that they are going to increase their production, or to make a better grade of paper, or to lower their cost; and then after they have planned some really constructive, good things, have it all fall by the board because no record was taken of it, and no attempt made to follow up after the plans were discussed, and so the whole thing was simply gone! I think the cost accountant can work up to the possibility of that position, and can supply that close association to a mill executive that will enable him to sit down, work up facts, and follow the progress of this planning, so that it will be followed through and realized.

4th: To budget production and to keep it under control.

5th: To furnish estimates of cost of any particular order or grade or weight of paper, of what it will cost under the conditions as to plant or market condition when the order is made.

The complete cost system should carry the engineer's ideas of pre-determination to its logical conclusion.

From all of the above it will be obvious to you that I have set up to the cost accountant a real job. He will have to be a man who has rare judgment and tact. He will butt into a great many difficult situations. He has to be a very good guesser and he has to know pretty much what is being planned and projected. He should have a very lively imagination.



Installation in a Pulp and Paper mill.
Accumulator approximately 60 ft. long and 16 ft. in dia.—11,300 cu. ft., storing 43,000 lbs. of steam.

Ruth's Steam Accumulators
in the
Pulp and Paper Industry
Save Fuel—Speed Up Production

Here are 4 of many advantages actually reported by owners of Ruth's Accumulators in Pulp and Paper Plants.

1. Fuel savings of from 10% to 30%.
2. Owing to elimination of peak load demands on boilers, fewer boilers required to carry given load.
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HEAD OFFICE—TORONTO

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Once upon a time

ONCE upon a time there was a bag of standard size, which is to say, of standard cubical capacity. This size was roughly determined by the bag's capacity for granulated sugar. A ¼ lb. bag was supposed to hold a quarter-pound of granulated sugar, allowing for convenient folding, tying or carrying space at the top; a ½ lb. bag was to hold a half-pound of sugar—and so on up.

Gradually the paper bag manufacturers, the wholesale and retail grocery trade, and everybody concerned, lost sight of the idea of standard capacity bags. Many things conspired to do this—principally intense competition.

Matters at length reached such a pass that the cubical capacity of paper bags, purporting to be of the same size, varied as much as twenty-five per cent. In many cases retailers were paying for something they did not get, wholesale merchants were obliged to handle bags which fell far short of the cubical capacity imprinted, and paper bag manufacturers who strove to maintain some sort of a size standard were severely handicapped.

Something had to be done

Something was done!

Grocers' Bags Standardized At Last!

Secretary Hoover Lends a Hand

On May 26th at the Department of Commerce, Division of Simplified Practice, in Washington, D. C., an important conference was held. There were present representatives of The National Paper Trade Association, The National Chain Stores Association, The National Wholesale Grocers Association of the U. S., The Grocery Bag Manufacturers' Service Bureau and a large number of bag manufacturers, The Bag Machine Manufacturers, as well as representatives of the Chamber of Commerce and The Bureau of Standards of the Department of Commerce.

Secretary Hoover and his associates, in conjunction with the interested groups mentioned above, had spent months in a painstaking survey of the facts. Out of these facts a definite program of standard sizes and simplified practice was evolved and presented.

Standard sizes for grocers' bags were unanimously adopted, and unnecessary and duplicating items dropped.

Now!

The Bureau of Standards has arranged to examine the paper bags of each manufacturer who wishes his product recognized as being of standard size. Every manufacturer whose bags are found to be in strict conformity with the official requirements as to standard cubical capacity is given the right to use the emblem shown on this page. Look for the double S on every shipping-bundle It is the certification of the manufacturer that the bags are of standard size. ***Buy only and use only such bags.***

Emblem Recognized by the U. S. Bureau of Standards, Washington, D. C.

Members Of Grocery Bag Manufacturers' Service Bureau

Atlanta Paper Company
Atlanta, Ga.
Alfred Bleyer & Co.
Brooklyn, N. Y.
Columbia Bag & Paper Corp.
Long Island City, N. Y.
Columbia Paper Bag Co.
Baltimore, Md.
Continental Paper & Bag Mills Corporation
New York City
The Grand Lake Co., Inc.
New York City
The Howland Bag and Paper Co.
Dexter, N. Y,
The Lawrence Bag Company
Middletown, Ohio
Newman-Kohn Paper Company
Brooklyn, N. Y.
Schorsch & Company
New York City
The Security Bag Company
Lockland, Ohio
Trinity Bag & Paper Co.
New York City
Union Bag & Paper Corporation
New York City
Victory Bag & Paper Co.
Chicago, Ill.
Wortendyke Manufacturing Co.
Richmond, Va.

GROCERY BAG MANUFACTURERS' SERVICE BUREAU

53 Park Place New York City

The cost accountant must become an important factor in industry. He must grow into a real factor from his past status of a clerk to a confidential assistant to the business executive.

When I started in thirty years ago we didn't know the cost accountant at all, and a bookkeeper was regarded as a clerk in the office. Formerly, your cost accountant was a kind of fifth wheel in the organization. He was not regarded as very much years ago. He was probably in the same category as a friend of mine who went to work for Ault and Wiborg, as a chemist. They said, "I suppose it is fashionable to have one of those darn things, but let's give him a salary and put him in the basement where he won't bother us."

Cost Association Has Raised Status

I think you fellows through the cost association have raised that status up. These meetings raise that status up, and I will venture the statement that ordinarily, your executive, whoever he may be—general manager, or president or what not—is a man whom you are going to have to show how important a factor you are in the business, just as this chemist did. He became finally one of the most important factors in that whole business. And I believe you have that necessary thing to do, to sell yourselves to the business executives, to attain the position where you are the confidential adviser along the line of recording the facts on plans, advising your executive on figures. Figures are definite things. You must make that place for yourselves because you have not quite gotten in most mills to the position where the chief executive takes you into his confidence and gives you the chance to be what you ought to be in that business. I imagine that many different methods could be used. Probably methods are secondary to an appreciation of the job and to real executive ability. The executive himself is a busy man. The cost accountant should handle his situation with as little reference to the executive as possible. His job is rather complicated. I remember one time when I was one of those lowly bookkeepers that I spoke about, that I thought it was a great opportunity to readjust all my accounting system, and took to my boss one day a big statement, with all the figures on there you could imagine. I had an idea that that executive had the time, and inclination, to look at the statement and see what it all meant. He looked at it a couple of minutes, then said, "Those are pretty figures and it is beautifully done. What does it all mean?" I started to show him, and he said, "Hold on a minute. You just write down here in simple, school-boy fashion just what you have got in here, the principal things, and that will suit me better." I thought that fellow just didn't have good sense, but I have since come to the conclusion that that is the normal condition of most executive minds. They are busy with the problems of their business and do not like to monkey with many figures, and you have to make them very simple. I have said to some of our fellows that they would have to put them to me in a very simple way because I have got so I can't understand any other. Your executives are the same way. You have to set your figures up so that they are perfectly simple, and they want to have confidence enough in you to accept your figures, because they have not the time to check up themselves. It requires a close application to figures, something which an executive today cannot spend much time on. Therefore, the cost accountant in furnishing his figures to the executive, must have them in a simple, direct and definite statement. He must have the confidence of the executive, as in many cases the executive must rely upon the judgment of the accountant.

I am very pleased to talk to you this afternoon. If I have suggested anything which may be of benefit to you, I think my time has been well spent. It is well spent to me, anyway, in seeing you here. I think that perhaps the important thing to you is a question of considering how this uniform cost system may be applied, and personally the question of what you can become in your own company, in a close relationship to your executive, in furnishing facts and figures that he certainly needs to know, and needs to know them absolutely up to date. Thank you very much. (Applause.)

CHAIRMAN REILLY: Mr. Sunderland, the Cost Association is greatly indebted to you for this very valuable paper. You have been of great service to the Association and I know that the officers as well as the members feel with you that the work they have done for the past five years has had some very beneficial results for our industry. We thank you for your kindness in coming here to address us.

Paper Men Urge Deeper Hudson

ALBANY, N. Y., June 29, 1925.—Approximately 250 pulp and paper firms in the United States will use the Deeper Hudson if proper facilities are developed, members of the Albany Port Commission were told at a conference with pulp and paper manufacturers and dealers of this district. Eighteen representatives of pulp and paper concerns of the Capital District attended the conference which was held in the office of the Port Commission, 100 State St. Frank C. Herrick, chairman of the commission, presided. Ernest P. Goodrich, port engineer, was present in an advisory capacity.

Donald G. Kibbey, traffic manager of the A.P.W. Paper Company, pointed out that 250 paper mills and dealers in the country are in a position to utilize the completed port. Mr. Kibbey stated that direct shipment of pulp and paper to Albany would cut handling costs from 90 cents to $1.50 a ton. He declared that return cargoes could be shipped from Albany to New England and other parts at 60 per cent of the railroad freight rates. Bulk sulphur, sulphite, wood pulp, bleaching and coloring matter will constitute a large part of the incoming cargoes, it was stated.

The A.P.W. Paper Company through Mr. Kibbey guaranteed ten shiploads of pulp and other materials through the Port of Albany annually. Other paper men in attendance including W. M. McCredie, of the W. H. Smith Paper Corp., W. H. De Rouville, of the Hudson Valley Paper Company, and Edgar L. Potter, of the Potter Paper Corporation, guaranteed the equivalent of 100 carloads the first year and forecast a rapid increase in shipments thereafter. The A.P.W. Paper Company's water shipments to Albany would increase from 12,000 to 50,000 tons a year with the deepening of the Hudson River, Mr. Kibbey declared.

It was brought out at the conference that engineers have declared the Hudson River, when deepened, will freeze but lightly making the Port of Albany operative twelve months in the year. E. P. Goodrich, port engineer, believes that no difficulty whatever would be experienced in keeping the Hudson navigable throughout the year by use of an ice-breaker.

Methods of handling pulp and paper shipments came in for considerable discussion. Mr. Goodrich announced that he is considering various styles of piers and types of handling devices to remove paper cargoes from ships. L. C. Case, of the L. C. Case Paper Co., advocated the unloading to lighters from ship and dock simultaneously. Mr. Case also gave information as to the handling of ground pulp and suggested covered storage spaces be erected for handling paper products. The port engineer said that complete plans for piers and storehouses had not been made.

Other paper manufacturers and dealers will confer with the port commission at an early date.

Union Bag Installs Additional Taylor Stokers

[FROM OUR REGULAR CORRESPONDENT.]

CHEBOYGAN, Mich., June 29, 1925.—The Union Bag and Paper Corporation is enlarging the capacity of its power plant by the installation of a new four-retort Type H Taylor stoker manufactured by the American Engineering Company, of Philadelphia. This installation is in addition to a number of Taylor stokers already in use in its mill.

Poller Paper Instruments Insure Accuracy

PAPER TESTER No. 400

Indicates accurately tensile strength in pounds and percentage and stretch in inches and percentage—all in one operation. Temperature makes no difference. It is the "Supreme Court" of all testing machines. No springs to get out of order. No glycerine or rubber discs to replace. All numerals are in English units and not in Continental Metric system.

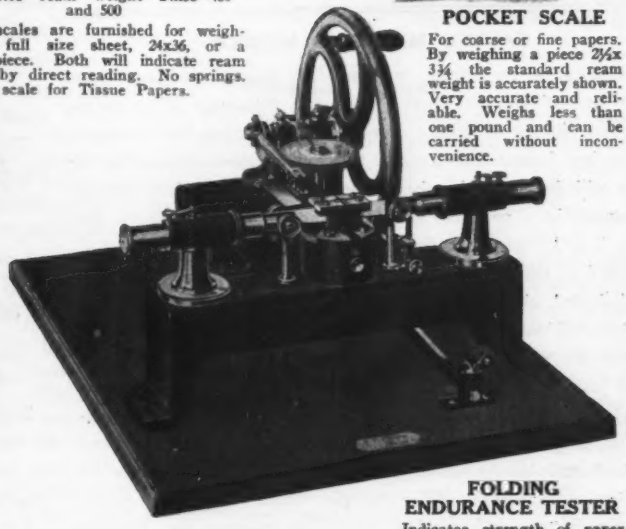
PAPER SCALE

Indicates ream weight 24x36—480 and 500

These scales are furnished for weighing a full size sheet, 24x36, or a small piece. Both will indicate ream weight by direct reading. No springs. Special scale for Tissue Papers.

POCKET SCALE

For coarse or fine papers. By weighing a piece 2½x3¼ the standard ream weight is accurately shown. Very accurate and reliable. Weighs less than one pound and can be carried without inconvenience.



FOLDING ENDURANCE TESTER

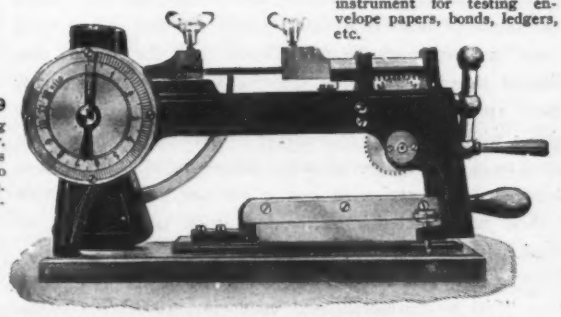
Indicates strength of paper by automatically folding a sample until it is worn through. A very valuable instrument for testing envelope papers, bonds, ledgers, etc.

AUTOMATIC MICROMETER

Measures thickness of board and paper accurately. Best instrument on the market for this purpose.

PAPER TESTER No. 399

Indicates stretch and breaking or tensile strength of paper. Operated by means of gears and screws. No springs to weaken and influence results. This machine is portable, weighing less than five pounds.



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210 Walnut Street, Cincinnati, Ohio

PAPER TRADE JOURNAL
ESTABLISHED 1872

With Which Is Combined

PAPER
The Magazine of the Paper Industry

HENRY J. BERGER, Editor

Member A. B. C. Audit Bureau of Circulations

Vol. LXXXI New York, July 2, 1925 No. 1

SAVING MEN AND MONEY

Accidents, on the streets, in homes and throughout plants, factories and shops are costing America thousands of precious lives and billions of dollars every year. Declaring that accidents do not just happen but are due to definite causes, elimination of which will do away with the results, the National Safety Counsel is engaged in a perpetual country-wide campaign to educate the public how to cut down the annual loss of life and limb. It is the belief of that institution that 90 per cent of the accidents will be eliminated when people learn how to remove the causes.

What the National Safety Council is doing to conserve human life and the nation's financial resources is convincingly told in a report just made public by W. H. Cameron, its managing director who is regarded as the world's leading authority on the question of safety.

While statistics do not appeal to most people, it is rather interesting to know that during the past dozen years in its efforts to hammer home the accident prevention message the National Safety Council has spent more than $2,000,000; that if the pages of its annual congress proceedings were combined they would make a volume of more than 13,000 pages; and that it has issued 4,500 new and separate pictorial bulletins. At the present time its affiliated safety councils are spending about $450,000 annually and there are 3,100 persons serving voluntarily on the various committees without thought of financial compensation. These locals conducted more than 25 special safety schools in which more than 20,000 persons were registered during the past year. More than 25 of these units have had safety instruction and activities inaugurated in public and parochial schools.

Supporting the National Safety Council are 4,000 employers operating 8,000 establishments and employing 6,000,000 workers. More than 50,000 persons are contributing directly to the support of the local councils.

As a result of the ground work done by the National Safety Council, many other national, state and local organizations today are manifesting marked interest in the safety movement and also are participating in the program adopted at the Hoover Conference on Street and Highway Safety at Washington last December when President Coolidge placed his official endorsement on the campaign's objectives.

Without any service charge to anyone, the National Safety Council is conducting a series of traffic safety surveys in various communities. Data already available as a result of this research work more than justifies the expenses involved. Research work on benzol poisoning is nearing completion and a new research on spray painting is being undertaken.

How many lives have been conserved and how much money has been saved through the activities of the National Safety Council and its affiliated chapters is a question that cannot be answered. The organization officials do know, however, that thousands of its supporters have reduced their workmen's compensation expense considerably as shown by reports on file. There is no doubt but what countless numbers are still enjoying their daily pursuits as a result of the educational work of the safety leaders. It is impossible to record how many lives have actually been saved, how many workers have been spared years of suffering; how many families have not known the sorrow attendant on losing loved ones and have been spared the grief attendant on having their relatives crippled, but it is quite evident that the National Safety Council is justifying its existence every hour of the day.

The work of the councils is limited only by their incomes. Their revenue comes through membership dues and there are no paid solicitors endeavoring to increase the enrollment. While we appreciate that everyone is being asked to subscribe to funds for various worthy causes and that most of us cannot respond to all of these appeals, we feel that the National Safety Council and its branches are worthy of support.

EMPLOYMENT IN THE PAPER INDUSTRY

The decreasing activity in the pulp and paper industry is reflected in the employment figures for the industry for May just issued by the Bureau of Labor Statistics of the Department of Labor, Washington, D. C.

The Bureau received replies from 203 pulp and paper mills which reported their employment in April at 55,385 decreasing in May to 54,737, a decrease of 1.2 per cent. The payrolls in these plants also decreased from $1,459,260 in April to $1,426,689 in May, a decrease of 2.2 per cent.

One hundred and sixty paper box plants reported their employment in April at 16,896, decreasing in May to 16,609, a decrease of 1.7 per cent. The payrolls in these plants on the other hand increased from $355,735 in April to $357,079 in May, an increase of 0.4 per cent.

Replies were received from 176 pulp and paper mills by the Bureau which reported their employment in May of last year at 51,522, decreasing in the same month of this year to 51,172, a decrease of 0.7 per cent. The payrolls in these plants also decreased from $1,356,294 in May of last year to $1,341,134 in the same month of this year, a decrease of 1.1 per cent.

One hundred and forty-six paper box plants reported their employment in May of last year at 15,925, decreasing in the same month of this year to 15,595, a decrease of 2.1 per cent.

To Hold Hearings on Envelope Competition

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., July 1, 1925.—A meeting was held at the University Club, this city, last week of the Envelope Legislative Committee during which the committee took up the subject of bringing its proposed bill to restrict government competition with printers and paper dealers in the printing and distributing of stamped envelopes, to the attention of the Joint Congressional Committee, of which Senator Moses of New Hampshire is chairman, and which will conduct postal hearings this summer. The committee decided that this should be done if the Congressional Committee will hear them at that time.

R. P. Andrews of the R. P. Andrews Paper Company this city, and vice chairman of the Envelope Committee, representing the National Paper Trade Association stated that certain key men in his industry would be selected to supplement the testimony of the publishers as to the effect of government competition with private enterprise in the sale of printed stamped envelopes.

Wallace Odell, chairman of the Legislative Committee of the National Editorial Association stated that his organization, representing 15,000 small daily and weekly newspapers would take an active part in the fight to obtain fair play for the printers. He announced that the Executive Committee of the association had authorized the presentation of testimony on behalf of the association at the various cities where the Congressional Committee will conduct hearings.

The United Typothetæ of America and organizations of envelope manufacturers and other business organizations interested in the principle of the government invading the field of private enterprise reported to the committee that they would also participate in the campaign which will be intensified during the summer and fall months.

$5,000,000 Big Paper Mill for Nova Scotia

In the course of an address at Liverpool, N. S., E. H. Armstrong, Premier of Nova Scotia, said:

"To my personal knowledge the Mersey River is likely to have at its mouth the largest news print mill in the Maritime Provinces, and that at no very distant date. For twelve months this project has been in course of very careful development, and those responsible for it have been in consultation with the Government with respect thereto. A site has been acquired and eminent engineers are now at work on plans and estimates.

"To assure this and other industries desiring to locate in Western Nova Scotia a sufficient supply of electrical power, the Government has found it necessary, as a matter of public duty, to set free the waters of the Mersey from speculators and monopolists, that not only the paper mill to which I have referred, and of which you will hear more in detail before the end of the week, but many other industries as well may be drawn to Queen's county by the opportunity of cheap electric energy."

On June 8, at Liverpool, the erection of a 200-ton paper mill, involving the expenditure of $5,000,000, was announced by Frank J. D. Barnjum in accepting the Conservative nomination in Queen's county.

Connecticut Valley Superintendents Meet

HOLYOKE, Mass., June 30, 1925.—The June meeting of the Connecticut Valley Division of the American Pulp & Paper Mill Superintendents Association was held Saturday night at the Hotel Nonotuck about 60 attending. Thomas T. Rogan of Fichburg presided and C. H. Kent acted as secretary. The association was fortunate in securing for the address of the evening Walter Rooney of Albany, N. Y., who had recently returned from a trip through the Orient and who told of the conditions in paper-making in the countries that he visited and of his experience there. A general discussion followed by social hour ensued.

Obituary

James McGee

James McGee, connected for the past forty-eight years with the firm of George W. Millar & Co., paper and paper mill supplies, 284-90 Lafayette street, New York, died last week.

After the death of William D. May, in 1920, he was made a director of the company, and served as such until August, 1924, when he resigned on account of poor health.

Mr. McGee was one of the most prominent Masons in the United States. Before his death he was the only living member of the original thirty, charter members of the Mecca Temple, A.A.O.N.M.S., of New York City, and on account of his work, was an honorary member of a number of shrines throughout the United States. In 1888 he was made a thirty-third degree mason.

He also wrote and published the early history of the "Ancient Arabic Order, of, The Nobles of the Mystic Shrine in North America" from its inception 1871-1882.

He was a member of the following orders: Chancellor Walworth Lodge 271, F. and A.M., Triune Chapter 241, R.A.M., Columbian Commandery 1, K.T., Scottish Rite Bodies, Mecca Temple A.A.O.N.M.S., Association of Exempt Firemen of the City of New York.

Herbert S. Valentine

PHILADELPHIA, Pa., June 29, 1925.—Herbert S. Valentine, sales manager of the Monorail Hoist Department of the American Engineering Company, of Philadelphia, and inventor of the Lo-Hed hoist manufactured by that company, died at his home here on June 5 as the result of septicemia following erysipelas that developed on a western business trip.

Mr. Valentine traveled extensively introducing the Lo-Hed hoist and had many warm personal friends throughout the country. He had had more than twenty years' experience in the design and manufacture of hoists, having been connected with a number of the leading manufacturers in this line in important engineering and executive positions. He was one of the organizers of the Standard Electric Crane and Hoist Company of Philadelphia, and was chief engineer with that company when it was taken over in 1922 by the American Engineering Company. It was while with the Standard Electric Crane and Hoist Company that his many years of intimate contact with hoist problems of every sort and his experience with practically every make of hoist, ripened into his conceiving the Lo-Hed,—his ideal hoist.

The development of the Lo-Hed was continued by Mr. Valentine and the engineering staff of the American Engineering Company and he saw the ambition of his life realized when the Lo-Hed hoist, as finally designed, was placed on the market.

John J. Kennedy Dies at Holyoke

HOLYOKE, Mass., June 23, 1925.—John J. Kennedy for the past 20 years superintendent of the Crocker McElwain Paper Company, died Friday morning at his home, 15 View street. He was one of the oldest papermakers in the city having served as superintendent of the Riverside Division of the American Writing Paper Company and as superintendent of mills in Maine for three years. He leaves his wife, and four sons, Thomas J. of Detroit, Mich., Edward George and John, all of Holyoke, two sisters, Mrs. Thomas Grady and Miss Bridget Kennedy of Holyoke and two brothers, Daniel J. of Holyoke and Timothy of Unionville, Conn.

C. W. Martin Goes to Mobile Paper Mills

MOBILE, Ala., June 29, 1925.—Charles W. Martin, who for the past five years has been superintendent for the W. H. Fox & Sons Paper Company, Penn Yan, N. Y., has accepted the position of superintendent of the Mobile Paper Mills at Crichton, Ala.

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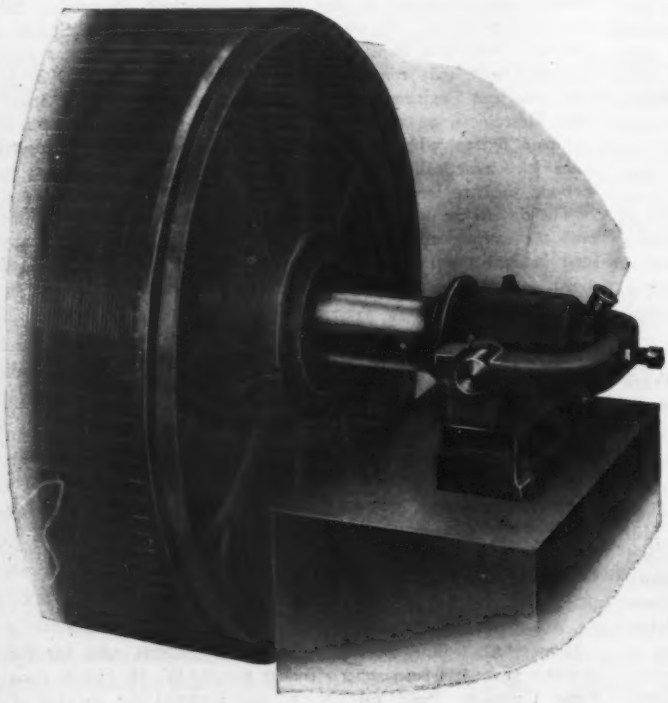

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Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

Papermakers' Alum

By George F. Kennedy

The term "alum" strictly refers to double sulphates of the general formula $M^{III}_2 (SO_4)_3 R^I_2 SO_4 24H_2O$ in which M may be any one of the four elements, aluminium, chromium, iron or manganese, and R either ammonium, calsium, potassium, rubidium, sodium or thallium. There are eleven alums: ammonium aluminium, ammonium chromium, ammonium iron, calsium aluminium, potassium aluminum, potassium chronium, potassium iron, potassium manganese, rubidium aluminium, sodium aluminium, and thalium aluminium. In designating alums that are double sulphates with aluminium, the term aluminium is left out being understood such as ammonium alum for ammonium aluminium alum. In like manner when speaking of aluminium sulphate in the paper industry it is customary to abbreviate the term to "alum." This is indeed unfortunate, and, has and always will cause considerable confusion, but the term is here to stay and is accepted by technical and practical men alike.

Manufacture of Iron-Free Sulphate of Aluminium

If caustic soda (sodium hydroxide) is added to a solution of aluminium sulphate, the hydroxide of aluminium is precipitated in a gelatinous form.

$$Al_2(SO_4)_3 + 6\,NaOH \rightarrow H_2O \rightarrow 2Al(OH)_3 + 3\,Na_2SO_4 + H_2O$$

This is the trihydroxide of aluminum and is more properly written $Al_2O_3 3H_2O$. There are two other hydroxides of aluminum dibydroxide of aluminum, $Al_2O_3 2H_2O$ and the monohydroxide of aluminum $Al_2O_3 H_2O$. This precipitate of aluminum hydroxide is a white hydrogel and loses water rapidly when dried without forming any intermediate hydroxides until Al_2O_3 alone remains. It interacts both with acids and with bases and is, therefore, ironized both as a base and as an acid. As an acid it forms aluminates such as $NaAlO_2$ with the active alkalies.

$$Al_2O_3\ 2\,H_2O + Na_2CO_3 + H_2O \rightarrow 2\,Na\ Al\ O_2 + CO_2 + 3\,H_2O$$

The Source of Alum

Natural forms of the hydroxides of aluminum are Diaspore ($Al_2O_3H_2O$ or AlOOH) Bauxite, ($Al_2O_3 2H_2O$ or $Al_2O\ (OH)_4$ and Hydrargyllite $Al_2O_3 3H_2$ or $Al\ (OH)_3$. The most important of these is bauxite so named from the town of Leo Baux in the department of Bouches-du-Rhone, France, where it was first found. Its composition varies from 20 to 40 per cent of aluminum and usually contains some iron and silica, also titanic acid. The ore occurs in rounded grains, in clay like masses. The grains usually show a concentric structure, and a variable color from white to yellow brown or red, depending on the per cent of iron in the ore. It is found in Virginia, Georgia, Alabama, Tennessee, Arkansas, Colorado and California. Besides the bauxite obtained in this country, considerable bauxite is imported from the Guianas. The composition of a good grade of American ore is approximately as follows:

Alumina Al_2O_3	57 to 62%
Ferric Oxide Fe_2O_3	less than 1%
Silica SiO_2	2.5 to 3%
Titanic acid H_2TiO_3	3 to 4%
Water (combined	20 to 30%
Moisture retained mechanically	2 to 4%

The Treatment of Bauxite

In the preparation of aluminum hydroxide, (intermediate to the manufacture of aluminum sulphate) the bauxite is first ground to a powder and on the basis of Al_2O_3 soda ash is mixed with it, to the amount of about 20 per cent over and above that necessary to form sodium aluminate. That is about 125 pounds of 58 per cent soda ash to 100 pounds of Al_2O_3. The mixture of bauxite and sodium carbonate is heated in a reverberatory furnace with constant agitation for five hours.

$$Al_2O_3\ 2\,H_2O + Na_2CO_3 + \text{Heat} \rightarrow 2\,Na\,AlO_2 + CO_2 \uparrow + H_2O \uparrow$$

The ferric oxide and titanic acid, having no tendency to form a carbonate or to interact with a base remain unchanged. The sodium aluminate which is formed is extracted with water.

Solium aluminate is largely hydrolized by water.

$$Na\,AlO_2 + 2\,H_2O \leftarrow Na\,OH + Al\,(OH)_3$$

and it is a very simple matter to further this hydrolysis by passing carbon dioxide through the solution forming sodium carbonate and precipitating the trihydioxide of aluminum.

$$2\,Na\,AlO_2 + CO_2 + 3\,H_2O \rightarrow Na_2CO_3 + 2\,Al(OH)_3$$

The sodium carbonate is now alone in aqueous solution. It is drawn off together with the washings of the precipitated aluminum hydroxide and the water evaporated off recovering the sodium carbonate, which is used again in the process. The precipitated aluminum hydroxide is then dried. It is next treated with sulphuric acid,

$$4\,Al\,(OH)_3 + 6\,H_2SO_4 + H_2O \rightarrow 2\,Al_2(SO_4)_3 + 13\,H_2O$$

and the resulting aluminum sulphate is ready for concentration. The digestion with sulphuric acid, concentration and casting are identical with that in the manufacture of the commercial grade a description of which is given later.

Requirements for Quality

The "iron-free sulphate of alumina" should be a pure white and should show an analysis of at least 16 per cent Al_2O_3 combined as $Al_2(SO_4)_3$ and soluble in water. The insoluble matter should be less than 1/10 of 1 per cent. Iron should not exceed 1/100 of 1 per cent calculated as Fe_2O_3.

Iron-free sulphate of aluminum is used in fine writing paper mills and in the manufacture of satin white.

The Process of Manufacture of Commercial Sulphate of Alumina

Commercial sulphate of alumina is prepared directly from bauxite. The ore is crushed and dried. The moisture content of the ore should not exceed ¼ of 1 per cent after drying, and the reason for this is that a soluble alumina (Al_2O_3 must be obtained. "Soluble alumina" to the manufacturer of almuinum sulphate does not mean *water soluble*. It means either the aluminum oxide (Al_2O_3) which is soluble in concentrated sulphuric acid and hydrochloric acid, *active* alkalies such as sodium hydroxide (NaOH) or the trihydroxide of aluminum ($Al_2O_3 3H_2O$) which is soluble in acids and *active* alkalies. The monohydroxide of aluminum and the dihydroxide of aluminum are not soluble in either acids or alkalies.

Bauxite is the dihydroxide of aluminum ($Al_2O_3 2H_2O$) and will not interact with sulphuric acid in this state, but upon drying it readily gives up moisture and becomes alumina (Al_2O_3)

$$Al_2O_3\,2\,H_2O \rightarrow Al_2O_3 + H_2O \uparrow$$

and in this form it interacts with sulphuric acid forming aluminum sulphate.

After drying, the bauxite is ground to a very fine powder and elevated to storage bins above the digesters.

Digestion with Sulphuric Acid

The digesters are generally 18 feet in diamenter and 18 feet deep and are heavily lined with lead. Their capacity is 4,580.46 cu. ft. which is qual to 34,264.8 gallons. There is a lead pipe in the center of each digester to which are attached at the bottom of the digester perforated lead pipes extending radially from the center. When necessary live steam may be introduced from the central feeding pipe or compressed air is so desired, may be used.

With a digester of this size, 4 tons of pulverized bauxite are used to the charge, and an amount of 50° Bé or 62.18 per cent sulphuric acid, based on the analysis of the ore, and in accordance with the reactions:

$$2\,Al_2O_3 + 6\,H_2SO_4 + H_2O \rightarrow 2\,Al_2(SO_4)_3 + 7\,H_2O$$
$$2\,Fe_2O_3 + 6\,H_2SO_4 + H_2O \rightarrow 2\,Fe_2(SO_4)_3 + 7\,H_2O$$

The amount of sulphuric acid required for the alumina and ferric oxide is pumped into the digester and heated to nearly the boiling point for the reason that concentrated acid increases its action on metals when heated, except when the boiling point of the acid is passed. When the sulphuric acid has reached the temperature desired, the heating is discontinued and the bauxite (in powdered form) is slowly added, a ton at a time. The chemical action between the sulphuric acid and the bauxite commences at once, and the temperature increases very rapidly. In order to keep the temperature down for the reasons stated, compressed air is introduced, and the second and third ton of bauxite introduced. If the chemical action becomes too violent and there is danger of the digester boiling over, the contents are sprayed with water from shower pipes above the digester. The fourth ton of bauxite is inttroduced as the action subsides, and in order to hold the temperature, as the caid is being more and more diluted by the formation of water from the interaction of sulphuric acid and bauxite, the compressed air is shut off and live steam introduced. The boiling continues, although now with no violent chemical action, until the completion of the digestion or cook, which takes 5 hours.

The Tests and Control Methods

The tests that are made during the cook are both practical and chemical. The practical test is that made by forming a bead on a glass rod. If the bead is glossy it is from excess of alumina, if the bead is not glossy it is from excess of acid. If no difference is observed the titrations are commenced and carried on until the aluminum sulphate is slightly basic.

By *basic alumina* is meant an excess of Al_2O_3 over and above that necessary to form the aluminum sulphate ($Al_2(SO_4)_3$) and it is formed when sulphuric acid is present in insufficient quantity to form aluminum sulphate and in accordance with the following reaction:

$$Al_2O_3 + 2\,H_2SO_4 + H_2O \rightarrow Al_2O\,(SO_4)_2 + H_2O.$$

By *acid aluminum suphate* is meant an excess of *free* H_2O_4 over and above that necessary to form aluminum sulphate.

If at the end of five hours' cooking the contents of the digester is not basic, it is not good judgment to add bauxite to the solution because it would be necessary to prolong the cook in order to convert the Al_2O_3 to $Al_2(SO_4)_3$ for the acid at this point is in a very dilute condition, and besides such a procedure would give a highly insoluble content to the aluminum sulphate from suspended silica in the solution, resulting from insufficient digestion.

It is customary to make this solution basic by adding basic sulphate of alumina sweepings from the grinding room, aluminum trihydroxide, or soda ash, the latter forming sodium sulphate with the excess of sulphuric acid. This sodium sulphate remains in the solution and is also present in the resulting aluminum sulphate.

Reducing the Iron to the Ferrous Condition

On the completion of the cook the contents of the digester are diluted with water (or aluminum sulphate wash) and transferred to lead-lined sludge or settling tanks. After the sludge has settled completely, the clear liquor, containing aluminum sulphate and ferric sulphate is transferred to lead-lined tanks where it is treated with zinc if so desired, for there is no other method of reducing the ferric sulphate to ferrous sulphate without also breaking down the aluminum sulphate. Ferric sulphate is grayish white and ferrous sulphate is of a greenish color. The reaction is as follows:

$$Fe_2(SO_4)_3 + Zu \rightarrow Zu\,SO_4 + 2\,Fe\,SO_4$$

There is as much iron and as much sulphate in solution as there was before the zinc treatment, and in addition there is now the zinc. When used in the paper mill the zinc however precipitates its equivalent of rosin size. It seems very doubtful whether the zinc treatment is of any material benefit as the processes in paper making permit the rapid oxidation of $FeSO_4$ to $Fe_2(SO_4)_3$ so that the final result may be the same, regardless of the original state of the iron. While the color of the aluminum sulphate itself is improved it does not necessarily follow that the color of the paper resulting from its use is in any way affected.

The residue in the settling tanks, after the transferring of the clear aluminum sulphate liquor, is leeched with water to recover the soluble aluminum sulphate. The washes of this sludge are used to dilute the contents of digesters after cooking and before transferring to the sludge tanks. Thus there is no loss of aluminum sulphate. The sludge after leaching consists of silica and titanic acid, and being of no practical value is thrown away.

The Concentration of the Liquor

The next step in the process is the concentration of the aluminum sulphate liquor, which is effected by means of concentration or lead-lined tanks equipped with lead heating coils. The liquor is evaporated down or concentrated until it reaches a consistency (which has been predetermined by tests) that will give on casting a definite percentage of moisture in the resulting solidified aluminum sulphate. The amount of water held in the liquor when ready for casting must be less than that required to form crystallized alum-

inum sulphate, that is $Al_2(SO_4)_3 18H_2O$ otherwise instead of forming "ice" or slabs, it will crystallize in the solution and there will be crystallized alum in a saturated solution of the alum liquor. Aluminum sulphate (crystallized) ($Al_2(SO_4)_3 18H_2O$) contains 15.305 per cent of Al_2O_3 which is equal to 51.343 per cent of $Al_2(SO_4)_3$ and 48.657 per cent H_2O as water of crystallization. This water of crystallization can be reduced by any percentage desired until the anhydrous aluminum sulphate ($Al_2(SO_4)_3$) is formed. The formula for the intermediates between the anhydrous alum, and the crystallized alum is $Al_2(SO_4)_3 XH_2O$, X representing the number of molecules of water in combination. The size precipitating power is based on the $Al_2(SO_4)_3$ content alone and the H_2O is disregarded.

The Aluminum Content

One hundred pounds of aluminum sulphate of 16 to 22 per cent Al_2O_3 contains the number of pounds of anhydrous aluminum sulphate and water shown in the following table. This table is for the pure alum but the corrections for impurities affect the number of pounds of water only, and so slightly that they may be disregarded.

Al_2O_3 %	$Al_2(SO_4)_3$ lb.	H_2O lb.
16	53.675	46.325
17	57.029	42.971
18	60.384	39.616
19	63.739	36.261
20	67.094	32.906
21	70.448	29.552
22	73.803	26.179

There is a difference of about 20 pounds to the hundred between 16 per cent Al_2O_3 and 22 per cent Al_2O_3. This amounts to 7,200 pounds to a carload of 36,000 pounds which is well worth taking into consideration.

The Casting of the Alum—"Porous" Alum

When the alum liquor has been evaporated down to the desired consistency it is cast, that is the liquor is allowed to flow onto the casting floor to a depth of about 2 to 3 inches where it quickly solidifies. The "ice" or slabs are broken up, crushed and pulverized, for pulverized aluminum sulphate dissolves much more easily than the coarser forms such as "lump alum" and "slab alum."

If so desired just before casting sodium bicarbonate or sodium acid carbonate ($NaHCO_3$) is added to the alum liquor and thoroughly mixed with it. On casting, the liquor swells up making a spongy mass which is more readily dissolved than "lump alum" this is salled "Porus alum." The reaction that takes place is as follows: (A or B, or both)

A. $6\ Na\ H\ CO_3 + Al_2(SO_4)_3 + H_2O \rightarrow 3\ Na_2SO_4 + Al_2O_3 + 4\ H_2O + 6\ CO_2 \uparrow$
B. $6\ Na\ H\ CO_3 + Fe_2(SO_4)_3 + H_2O \rightarrow 3\ Na_2SO_4 + Fe_2O_3 + 4\ H_2O + 6\ CO_2 \uparrow$

The evolution of the carbonic acid gas (CO_2) passing up through the solidifing alum makes the alum "porus" but it also forms sodium sulphate which is of no value, and insoluble (in water) Al_2O_3 or Fe_2O_3 or both which increases the insoluble content of the alum.

In the Paper Mill—Dissolving the Alum

Alum should be dissolved before adding to the beaters, and the solution should be of 6° Be' strength at 60° F. This is equal to a specific gravity of 1.0432, and the solution will contain 12 grams of Al_2O_3 to the liter, 7.49 pounds Al_2O_3 to the cubic foot or 1 pound Al_2O_3 to the gallon. This is equal to 40.256 grams the liter of $Al_2(SO_4)_3$ and is a 4 per cent solution of $Al_2(SO_4)_3$. It is also equal to 2½ pounds of $Al_2(SO_4)_3$ to the cubic foot. The solution is made in wooden tanks (cylindrical) 6 feet in diammeter by 6 feet high inside dimensions and are equipped with agitators. Tanks such as these hold 150 cublic feet when filled to within 8 inches of the top. The tank is filled ¾ full with water and 700 pounds of alum on a 16 per cent Al_2O_3 content basis added slowly, the agitator moving to prevent crystallization, and to aid solutions. The amount of alum added is equal to 375 pounds of $Al_2(SO_4)_3$. After the alum is completely dissolved, water is added to the solution until it tests 6° Bé. Together with more rapid action in the beaters a saving of 6¼ per cent is made for each and every increase of 1 per cent of Al_2O_3 content of the alum used over 16 per cent Al_2O_3. Thus if the furnish formula calls for 16 per cent Al_2O_3 alum and the the alum used is 17 per cent Al_2O_3 content, a saving of 6¼ per cent is made. On a carload this would amount to 1⅛ tons for every 36,000 pounds. Such an installation soon pays for itself.

Specifications for Commercial Sulphate of Ilumina

A. It must all pass through a 10-mesh sieve and contain no more than 20 per cent of particles which will not pass through a 20-mesh sieve.

The finer the alum is ground—the more readily soluble it is. The degree of fineness specified is as fine as it can conveniently be ground without increasing the cost.

B. Insoluble Matter. It must be free from insoluble matter of dark color or hard gritty nature, other insoluble matter must not be present in excess of ¼ of 1 per cent.

This is to prevent the presence of hard gritty particles which would cause damage to wires, or dark colored insoluble matter which would introduce dirty specks into the paper.

C. Iron Content. It must contain not more than ½ of 1 per cent of iron calculated to Fe_2O_3.

This limit can well be regulated without increasing the cost unduly (that is, by selecting ores low in Fe_2O_3). and is sufficiently low to be without effect on all paper except that of the highest grades.

D. Free Acid. It must contain no free acid.

Free acid is injurious to fly bars, plates, piping, pumps and machine clothing to a much greater extent than alum without any free acid in it.

E. Aluminum Content. It must contain at least 16 per cent of alumina calculated to the oxide (Al_2O_3) combined as aluminum sulphate and soluble in water. Basic aluminum sulphate $Al_2O(SO_4)_2$ and free alumina (Al_2O_3) will not be considered undesirable but will not enter into the determination of alumina.

F. Degree of Basicity. It should be basic from at least 0.3 per cent to 0.5 per cent but not over 0.5 per cent.

H. G. McDowell on Training Committee

Advice has just been received from Martin L. Griffin, Chairman of the TAPPI Committee on Training in the Industry, that H. G. McDowell, Pusey & Jones Company, Wilmington, Del., has consented to act on it.

Through Mr. McDowell the Committee will have the advice of an engineer experienced in the design, construction and erection of papermaking machinery.

Other members of the Committee are: J. O. Mason, Henry F. Obermanns and Leon M. Yoerg, thoroughly trained paper mill superintendents; R. T. Haslam, C. E. Libby and James A. Moyer who are trained educators.

It is expected that other machinery builders who are interested in the subject of training will be selected.

Completing Plans for Pulp Mill at Dublin

[FROM OUR REGULAR CORRESPONDENT]

Dublin, Ga., June 29, 1925.—C. A. Thorsen, president of the Southern Pulp and Naval Stores Company, and his attorney, Westfall of Ohio, arrived here last week for the purpose of beginning active work on putting in this plant.

The Chamber of Commerce is closing up the matter of purchasing a site, and getting other details completed for the Dublin part of the mill. It is planned to close all matters up as quickly as possible, and allow the pulp mill to proceed with installation.

Guarantors of the site met recently and took action to close up this part of the agreement Dublin has made with the pulp mill.

Continuous Grinding*

By J. F. Heaney,[1] American Voith Contract Co., New York

The Voith Caterpillar Grinder has proved its merits for over three years both on this continent and in Europe.

There are about forty Caterpillar grinders running in 20 European pulp mills, Scandinavian and English mills included; 40 more of these grinders are at this time under erection, quite a number of same being reorders.

On this side of the ocean, one grinder has been running at the West Linn, Oregon plant of the Crown-Willamette Paper Co. since November, 1923, 14 more are doing highly satisfactory work at the Kenogami, Quebec plant of Price Bros. & Co., Ltd., 12 more grinders of the same design having been ordered for the St. Joseph d'Alma plant of the same company at Riverbend, Que.

Regarding the early history and development of the Caterpillar grinder, an elaborate paper on this subject was read by C. A. Waterous of Brantford, Ont., at the Convention of the Technical Section of the Canadian Pulp and Paper Association held in Montreal January 28, 29, 1925. This paper has appeared in several of the trade journals. It therefore only remains to present some data on the advantages of continuous grinding, together with a short description of the Caterpillar grinder design of today and the way these grinders have to be installed in modern pulp mills.

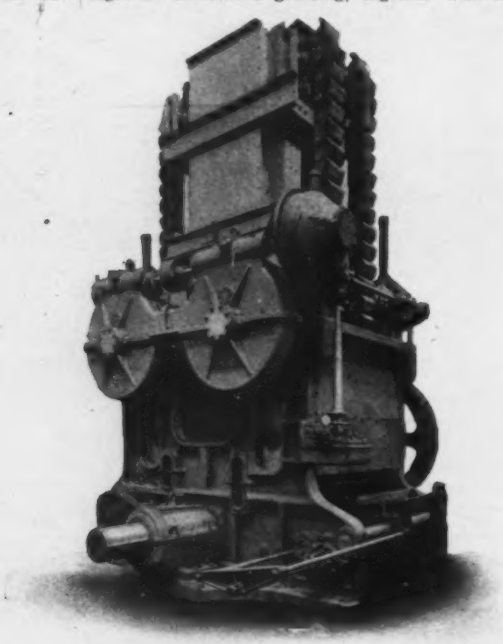

Fig. 1

Production Uninterrupted

As expressed by the name of continuous grinder, the grinding process with this new type is an uninterrupted one, all pressure changes having been done away with. One high pressure is used by which the wood is fed to the stone uniformly and as a compact column by means of positive acting feed chains. This system of feeding, together with the large grinding surface of 40 inches in width, allows the application of a specific grinding pressure far in excess of the pressure used hitherto on pocket grinders and on the old type magazine grinders with automatically reversing presses. The single pressure of the Caterpillar grinder is therefore able to take up much power as was formerly used on three to six pockets.

Having no pressure changes, the amount of coarse fibers and slivers produced are reduced to a minimum. The pulp is highly uniform and contains practically no flour. The majority of the fibers are long and fine and the stock is nicely disintegrated, with practically no bundled fibers being present. Besides this, the power required is at least 15 to 25 per cent less than that necessary with the old type grinder for producing the same grade of stock.

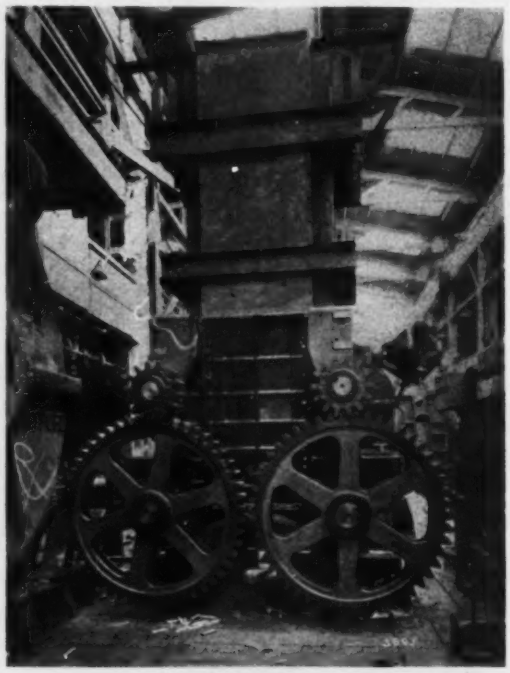

Fig. 2

It has been proven beyond doubt by practical experience reaching over a period of several years, that any grade of pulp desired can be produced with the Caterpillar grinder, i.e. from the coarse and free fiber as required for cardboard to the highest grade of slow and fine stock which is indispensable for a newsmachine running at 1,000 feet per minute or more. For all grades of stock the pulp produced with the Caterpillar grinder is superior to that made on pocket grinders, especially with regard to the uniformity of the fibers, and the absence of coarse particles and slivers. As already stated, the power consumed by the new grinder is less than that required by the pocket grinder for the same grade of pulp; furthermore, owing to the elimination of the pressure changes and the very small fluctuations in the surface of the wood applied to the stone, the load on the driving motor is most uniform and can be kept very close to the full load for which the motor has been built. The steady load has the advantage of allowing a continuous working of the motor at its best efficiency, which not only improves the power factor of the grinder room but achieves a corresponding increase in production per horsepower.

A remarkable advantage of the Caterpillar grinder consists in its operation being practically independent of the skill of the human

* Delivered at the annual convention of the American Pulp and Paper Mill Superintendents' Association, Niagara Falls, N. Y., June 4-6, 1925.

[1] Member TAPPI.

factor and at the same time a considerable amount of labor is saved, as one man can easily charge four grinders. The new plant at Kenogami, for instance, contains seven units with two grinders each, coupled in pairs, making a total of fourteen machines. Eleven attendants per shift are required in the grinding plant proper, the crew consisting of one foreman, one head grinder man and stone sharpener, five men on the lower floor and four men on the charging floor. This crew would be sufficient, should the number of grinders be increased to sixteen.

Of course, it is also possible to obtain good results with the pocket grinder, provided that a strict supervision is exercised. It must, however, not be forgotten that such results can only be reached with extraordinary care in feeding the grinder pockets, whereas the good results obtained with the Caterpillar grinder are based on the principle of the continuous feed.

Temperature Control

The temperature control of the Caterpillar grinder is very simple as there is no tendency of the stone cooling down on account of the reversing of the presses. The heat generated during the grinding process is to a large degree not lost as is the case with the pocket grinder, but is used for warming up and softening the wood, thus facilitating the disintegration of the fibers on the stone. Even under extreme climatic conditions, where the logs reach the grinder magazine in a frozen state, the amount of steam created by the grinding and drawn into the magazine, is sufficient to fully thaw out the ice.

The Caterpillar grinder handles any shape of wood, from the

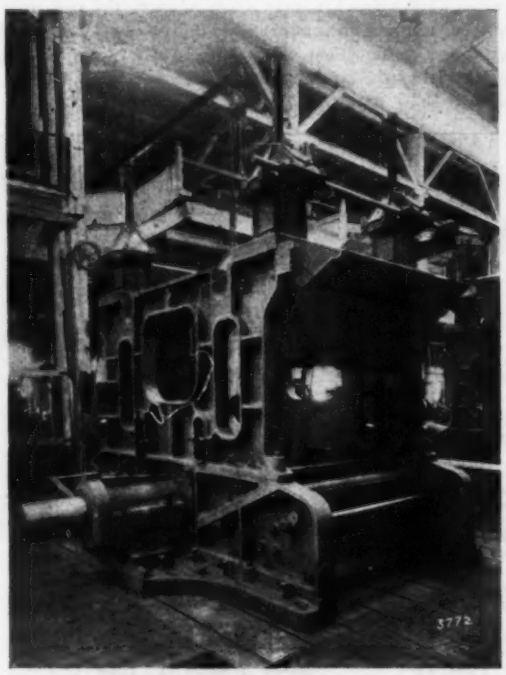

FIG. 3

smallest stick to 30 inch diameter, as well as split and square wood, edgings, slabs and other sawmill refuse, which up to the present could only be disposed of as fuel.

Having dealt with the principle and advantages of the Caterpillar grinder, some data from actual mill practice will be of interest:

In Europe a Caterpillar grinder is built there in various sizes for logs 20 and 40 inches long and for productions of up to 27 tons per day. In the plant of the Feldmuehle Papier-und Zellstoff-Werke, A. G., Odermuende, one of the largest and most up to date news mills in Germany, the Caterpillar grinders replaced magazine grinders with automatically reversing presses. One Caterpillar grinder produces more pulp than two magazine grinders formerly coupled to the same electric motor. The pulp produced is much better than that from the magazine grinders, permitting an increase in speed of the fast running newsmachine from 800 to 870 feet per minute. The mill records show an average power consumption of 42 to 50 hp. per 1,000 kilograms (2,204 lb.) of air-dry pulp, which is 38 to 45 hp. for the American ton. This paper mill has lately

FIG. 4

been enlarged by adding a 236 inch newsmachine built for a speed of 1,150 feet per minute and a corresponding enlargement of the pulp mill. Owing to the excellent quality of the pulp produced with the Caterpillar grinders, a speed of over 700 feet per minute and a production of more than 90 tons per day of newsprint paper was obtained within three weeks from the start.

In the pulp mill of the J. W. Zanders paper mills at Bergisch Gladbach, where a very fine pulp for coated paper is made, two Caterpillar grinders replaced two automatic magazine grinders, using the same electric motor. The Caterpillar grinders increased the pulp production from 8,600 kilograms (19,000 lb.) to 12,900 kilograms (28,000 lb.) of air-dry pulp per stone, decreasing at the same time the power consumption from 105 hp. formerly required with the magazine grinders to 54 hp. In this case the logs ground are 20 inches long.

The Quality of the Pulp

Very extensive tests were carried out at the Warkaus Paper Mill at Warkaus, Finland, both with regard to slowness of stock, general quality, power consumption and production. Samples of pulp produced with the old type magazine grinder and with the Caterpillar grinder were sent to Aktiebolaget Centrallaboratorium, an impartial institution for studying and examining questions important for the paper trade. The results of the examination of this laboratory given in literal translation as follows:

"On examination of two samples of wood pulp marked S (Caterpillar grinder) and No. 4 (old type magazine grinder) the following results were found:

"The freeness tests according to Schopper-Riegler standard read as follows:

Sample S	Sample 4
82,0	78,0

"When testing the tearing strength of the woodpulp for sheets of about 150 grams per square meter (88½ lb. per ream of 480 sheets 36 inch x 24 inch), we have obtained a medium tearing strength of

Sample S	Sample 4
2605 meters	1835 meters

"The photomicrographs taken show clearly regarding the quality of the woodpulp that notwithstanding the small difference in freeness, quality and fineness of the fibers as per sample S are superior to that of Sample 4.

"Sample S shows a high degree of slowness and is of homogenous nature, without knots and bundled fibers, larger slivers not taken into account. Sample 4 has a somewhat lower legree ot slowness and contains comparatively many bundled slivers.

"Abo, November 26, 1924. Aktiebolaget Centrallaboratorium
Kaskuslaboratorio
(sgd.) K. G. Bergmann."

The pulp mill reports that Sample S was made on a Caterpillar grinder using an English "Stancliffe" stone. Load on the grinder 920 hp., production 19 kilograms per hp. in 24 hours, i.e. 52½ hp. per 1,000 kilograms or 47½ hp. per American ton; rate of feed 2 1/32 inches per minute; temperature 62 deg. C (144 deg. F.) The stone was sharpened with a spiral burr No. 8. The samples were taken from the grinder pit.

The pulp produced is made into paper on a high speed 179 inch paper machine, working under conditions very similar to those in the U. S. A. and Canada. The latest reports received from the mill mentioned, state that owing to the excellent and uniform grade of the pulp produced with the Caterpillar grinders the paper machine is now running with a speed of 260 meters equal to 860 feet per minute and producing 84,000 kilograms or 93 American tons of newsprint paper, most of which is imported into the United States.

The results obtained here in America with the Caterpillar grinder are also very gratifying. In West Linn, Oregon, a mill already mentioned, a Caterpillar grinder replaced two 3-pocket grinders coupled to a 1,000 hp. waterwheel. Under good water conditions, the production was increased 100 per cent, the Caterpillar grinder reaching a maximum output of 29 tons, 20 to 22 tons being the normal output, while the average daily production with the pocket grinders ranged from 12 to 14 tons per 24 hours.

The Kenogami Plant

In Kenogami, Que., where 14 Caterpillar grinders of the latest self-contained design have been working for the past 3½ months, an average of 16 to 18 cords of wood per stone are ground daily. With a yield of 2,200 pounds per cord, this amounts to about 17 to 20 tons of the highest grade of slow and fine pulp used on two paper machines of 234 inches width, each producing more than 100 tons of standard newsprint paper per day. The power consumption per ton of pulp is as high as 68 to 72 hp., the stones are burred with No. 12 burrs and 1¼ to 3½ inches lead; the temperature is kept as high as 160 deg. F. As the papermill uses neither beaters nor jordans, the quality of pulp required is higher than in the average American mill which is best shown by the fact that the pocket grinders in the same mill are using from 82 to 92 hp. per ton of pulp.

While it was very easy to get a production of 22 tons per day or more of a somewhat freer grade of pulp, the mill men had to first learn to grind on comparatively dull stones. This required the same power consumption with a considerably higher grinding pressure, very near the crushing limit of the soft wood used at Kenogami.

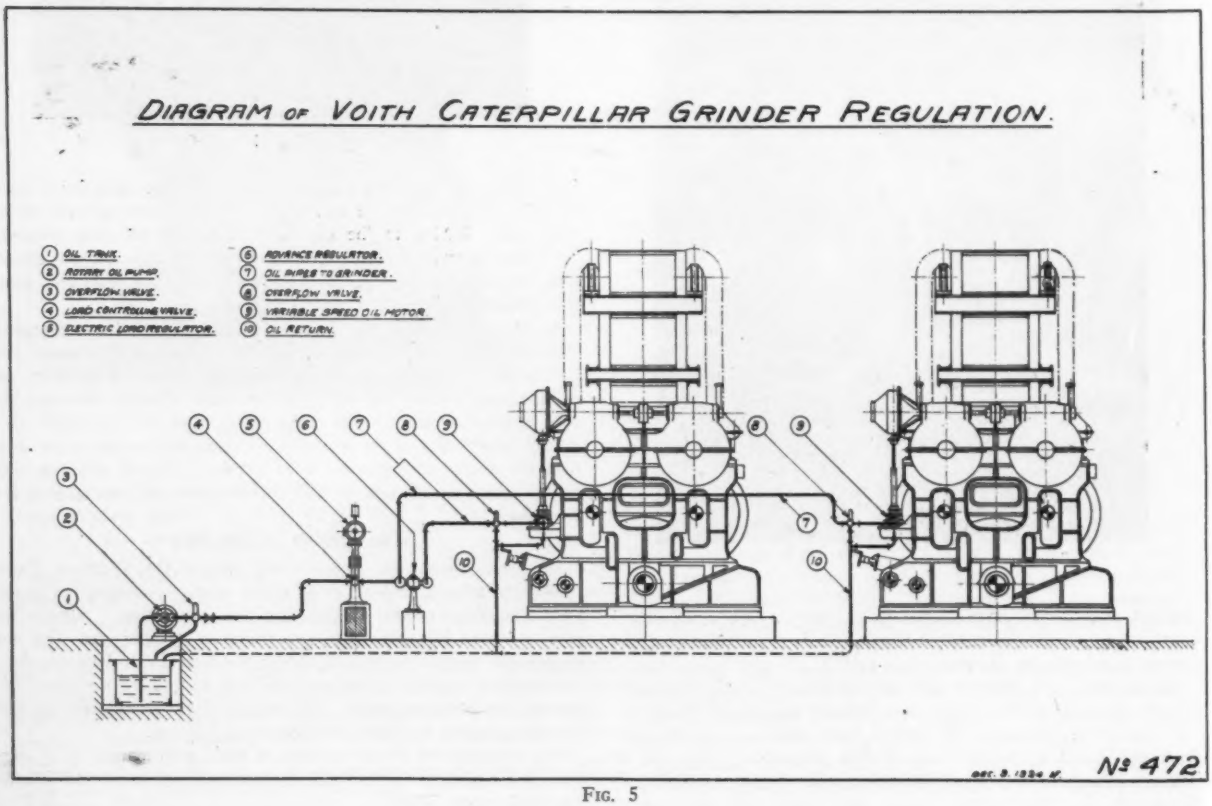

FIG. 5

The design of the grinder has been specially adapted to the conditions of operation prevailing in this country, and the strong and durable machine, as will be seen from Fig. 1, has been designed with the intention of simplifying the handling and keeping down the labor cost as much as possible.

The machine is self-contained; it is erected on its foundation free from all supports from the ceiling or building columns. There are two main parts, an outside frame, carrying the weight of the whole machine, and an inside frame, which is formed as a single pocket for the wood column, with slides in suitable ways in the outer frame. The chains, gears and shafts are attached to the inner frame, which is adjustably connected to the outer frame by means of worn jacks coupled together and operated as an entity by a reversing motor.

The heavy hydraulic stone-sharpening device can be seen in Fig. 1. It is mounted on solid supports fastened to the side frames. The truing device is located entirely outside of the covers closing the frames from the stone and pulp, thus protecting it against the action of hot pulp and steam. When not in use, the cylindrical part of the device holding the burr can be swung parallel to the guide bars so as not to project beyond the base plate. In this position the used burr can be conveniently removed and replaced by a new one.

Two finger bars are bolted to the bottom of the inner frame, the latter being adjusted as the stone wears away, so as to maintain a very small clearance between finger bars and stone at all times. When a stone has to be changed, the inner frame together with all parts, such as magazine, gears, etc., attached thereto as shown in Fig. 2, raised sufficiently high, so as to allow the lifting of the stone and shaft out of its bearings and carrying the stone together with shaft and flanges out of the side of the grinder. The substantial design of the outside frame with cross rails and foundation plates carrying the two 12 inch collar-oiling bearings is clearly shown in Fig. 3. Mounted on the top rails, the four

FIG. 6

power driven worm jacks for supporting and adjusting the inner frame will also be recognized.

Changing Stones

The lower part of the side frames is divided into wedge shaped pieces on one side of the shaft. By loosening a few bolts the wedge pieces move sideways so as to give clearance in the horizontal joints, thus allowing the removal of both lower side frames which are connected together by a cross rail. The shaft has then only to be lifted out of its bearings with the aid of hand cranes and carried out through the openings, no further dismantling of the grinder being necessary.

The chain drive with a ratio of the gears of about 1:10000. The large spur gears seen at the left are of cast steel and keyed to the lower sprocket shafts which are mounted in heavy bearings forming part of the bottom pocket casting. The next reduction is by the large low speed worm gears. The worm shafts are coupled together and driven from a high speed worm drive which is situated above the large worm gear housings. The worm shaft of the high speed worm drive is coupled to the vertical shaft of the oil motor by means of universal joints and a telescopic shaft, which is necessary, as all the gears are mounted on the sliding inner frame. The oil motor, however, is on the stationary outer frame.

The magazine adjoining the bottom pocket of the inner frame is all of heavy structural steel and carries at its top the chain

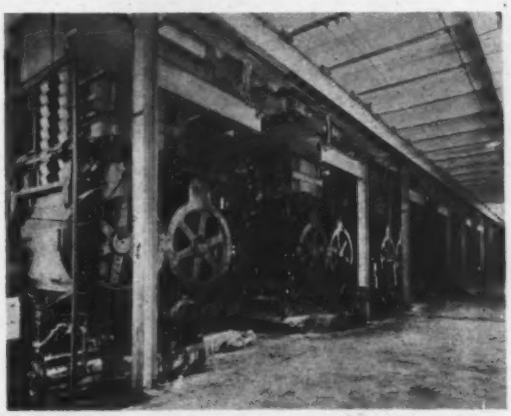

FIG. 7

tightening devices. The walls of the magazine are fully parallel and 40 inches apart, thus giving a grinding surface of 40 x 48 inches. The magazine is loaded from the top, no unusual care on the part of the operator being necessary.

The Chain Design

The shape of the chains used in the Kenogami grinders is seen from Fig. 4. The links are of the wedge type, and so designed that they exert a solid grip on the wood column, at the same time compacting it to such a degree that the whole column of logs is fed to the stone as a compact mass. The links are mounted on antifriction rollers and keep the logs away from the magazine walls, so that there is practically no friction between the logs and the walls.

The grinder is fully enclosed; the steam generated during grinding is forced to take its way through the magazine where it is used for softening and warming up the logs, being almost fully condensed on its way.

The complete grinder has a weight in the neighborhood of 52 to 53 tons.

The Control Equipment

Proceeding now to the control of the grinder load, illustration (Fig. 5) shows diagramatically the combination of pump, governor and oil motor with all the necessary accessories for a satisfactory regulation of one or two grinders on the same motor. The operation of the system may be briefly described as follows: The supply of oil is provided by the pump *2* with a pressure of about 200 pounds per square inch; a throttle valve *4* inserted in the piping between pump *2* and oil motor *9*, which is coupled to the chain drive, reduces the oil pressure to between 60 and 100 pounds according to the load and stone conditions of the girnder. The throttle valve is actuated by a governor *5*, which in the case of a waterwheel drive keeps the speed of the wheel constant, whereas, when an electric motor is the driving means, the amperage or watts of the motor are kept constant. Assuming that a waterwheel is the driving means of the grinder, with a decrease of load the wheel will speed up. In this case the pendulum of the governor, which is driven from the wheel shaft, will speed up too, at the same time

opening the throttle valve, increasing the pressure on the oil motor, which also speeds up and increases the chain feed. This is identical to an increase in load. If an electric motor is used as driving means, a decrease of the load of the grinder corresponds to a decrease of the load or amperage of the motor. The governor in this case consists of a small torque motor, the rotor of which is counterbalanced by a spring or similar mechanical tension device. This spring is so adjusted that there is equilibrium for a certain amperage of the torque motor which corresponds to a certain amperage of the main motor. With a decrease of the amperage, the rotor of the torque motor will make a slight turn in such a direction that the stem of the throttle valve will rise, thereby opening the valve and decreasing the throttle action which has the same influence on the oil motor as already described. With an increase of the grinder load above the normal rating, the rotor of the torque motor will turn in the opposite direction and close the throttle valve to some extent, thereby reducing the pressure on the oil motor and at the same time the rate of advance of the feed chains. If two grinders are connected to one driving unit, a patented equalizing device *6* is interposed in the piping between governor valve *4* and oil motor *9*, which controls the relative speed of the chains and allows a division of the load on the two grinders at some predetermined ratio from equal load to a difference of up to 25 per cent.

The grinders are protected against a dangerous overload by means of relief valves *8* in the piping to the oil motor. The oil motor used is of the rotary impeller type, the latter being provided with very carefully machined teeth which guarantee a positive start

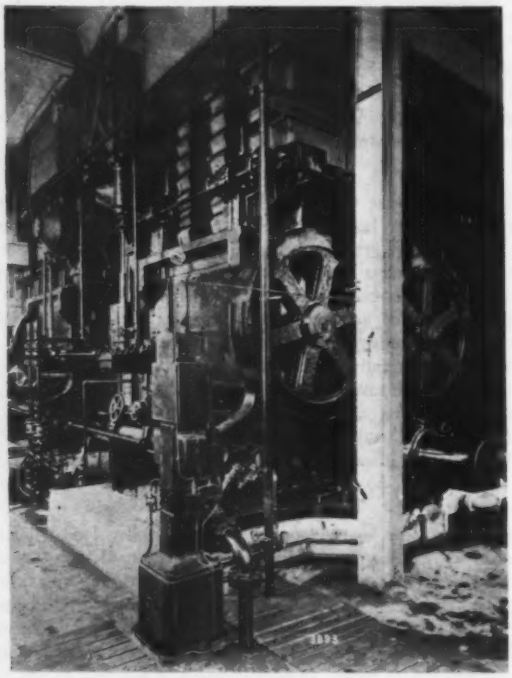

FIG. 8

of the oil motor in any position. Its operation is silent, the speed ranging from 0 to a maximum of 500 to 600 revolutions per minute.

The variable oil motor compared with a variable speed electric motor for the feed drive has the advantage of an unequalled adaptability of the hydraulic control to the changing wood conditions. Moreover, the hydraulic control is much simpler than the electric system and can be easily understood by the average mill hand.

The control system described gives a very uniform load on the main motor, thus making the operation of the grinder a highly uniform one, both with regard to the power consumed and the pulp produced.

Mill of Price Bros. & Co., Ltd.

A short description of the grinding mill of Price Bros. & Co., Ltd., Kenogami, Que., will give an idea how to install Caterpillar grinders in the most economical and labor saving way.

As already mentioned, their mill contains fourteen Caterpillar grinders arranged in pairs on one side of electric motors of 2,800 hp. each. Fig. 6 shows the loading floor, the logs being brought to this floor from the main log pile in the yard by means of conveyors. After swinging back the covers adjoining the grinder

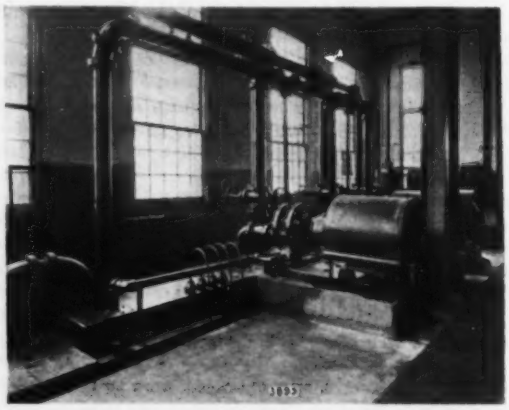

FIG. 9

magazines, the logs can be conveniently drawn into the openings by means of pickaroons, one man being able to load four grinders. The covers are counterbalanced; the lever and weight arrangement is shown suspended from the trusses of the roof.

Fig. 7 gives a full view of the fourteen grinders seen from the drive side of the rear row. Near the ceiling the crane arrangement for conveniently changing the grindstones may be noticed. The height of the grinder room is 20 feet from floor to floor and is governed not by the height of the magazine necessary for a perfect working of the grinder, which would only be about 8 to 10 feet from center of grinder shaft, but by a convenient arrangement of cranes, pipings, air ducts, etc.

More details of the grinders will be seen from Fig. 8, which shows the self-contained fully enclosed design, the heavy covered spur gears, the wedge link chains, as well as oil motors and equalizer for the drive of the latter.

The ventilation ducts for removing the excess of steam generated at the stone and forced up through the magazines, as well as for ventilation of the grinder room may be seen from this illustration. It also shows the wattmeter type governors, patented by the Waterous Engine Works Co., Ltd., Brantford, Ont., who built the grinders.

The pumping station for the oil pressure supply is shown in Fig. 9. There are three pumps of the gear impeller type, each coupled to a 125 hp. electric motor. Two of these pumps are ample for the maximum output of the grinding units. In the foreground the oil tank is shown; the small pipe lines connect to cooling coils inside of the tank which is also provided with a filtering device for the oil. The vertical pipe at the left leads the overflow of oil back to the tank. It remains to sum up shortly the main advantages of the Caterpillar grinder which are:

The production of more and better pulp with a minimum of power, a minimum of labor and low stone costs.

The adaptability of the grinder to all shapes of wood such as round logs, split and square wood, edgings, slabs and other saw mill refuse will open new fields for the wood grinding industry on a material which up to now could only be used as fuel.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Paper Making Industry

Clarence J. West, Chairman

Miscellaneous

Report of the Berlin Section Meeting of the German Technical Association. E. Opfermann. *Papierfabr.* 22, Tech.-Wiss. Teil 577-579 (Dec. 7); *Wochbl. Papierfabr.* 55, 3159-3161 (Dec. 6, 1924). A brief report, consisting essentially of the abstracts of the papers presented at the Nov. 26 meeting of the German Technical Association. The following papers are abstracted: Modern Artificial Silk Manufacture (Viscose process), by Jentgen; Hot Grinding under Hydraulic Pressure and the Voith Continuous Grinder, by Johannes Teicher; and Chemistry and Heat Requirements in the Sulphite Process, by A. Klein.—J. L. P.

Curly Paper. Anon. *Papierfabr.* 22, Tech.-Wiss. Teil 522-523 (Nov. 2, 1924). The curls in paper are due to (1) lack of uniform stretch in the manufacturing operation, (2) uneven drying of the sheet, (3) variation in thickness, and (4) uneven winding on the reel owing to the braking mechanism being on one side of the reel and not on both sides. Each point is briefly discussed.—J. L. P.

Abstracts of the Pulp and Paper Literature. Ernst Graap. *Zellstoff U. Papier* 4, 240-242 (Sept. 1924). Brief abstracts of articles dealing with the mechanical side of pulp and paper manufacture are given. The journals covered are chiefly German, and the period is April to June, 1924.—J. L. P.

Abstracts of the Pulp and Paper Literature, Chemical and Mechanical. Ernst Graap. *Zellstoff U. Papier* 4, 293-296 (Nov.); 329-333 (Dec. 1924). Brief abstracts of articles dealing with the manufacture of pulp and paper in German journals. The period covered is July-Sept. 1924.—J. L. P.

Science in the Mill. Jacques Crolard. *Papier* 27, 1371-1379 (Dec. 1924). A discussion of the importance of scientific control of raw materials, manufacturing processes and finished products in the paper industry.—A. P. -C.

Weight Differences in Paper. Anon. *Papierfabr.* 22, Tech.-Wiss. Teil 545-546 (Nov. 16, 1924). General.—J. L. P.

Early German Paper Makers. Mathieu Schwann. *Papierfabr.* 22, Tech.-Wiss. Teil 519-522 (Nov. 2, 1924). Historical.—J. L. P.

Paper Manufacture by the Natives of Mexico. Walter Klug. *Wochbl. Papierfabr.* 55, 3307-3309 (Dec. 20, 1924). Historical and descriptive.—J. L. P.

Bees, Steers and Lilies. Mathieu Schwann. *Wochbl. Papierfabr.* 55, 3303-3307 (Dec. 20, 1924). An historical discussion of the meaning of old watermarks of various designs.—J. L. P.

Heat Problems in Pulp Manufacture. G. Sundblad. *Zellstoff U. Papier* 4, 224-228 (Sept. 1924); *Archiv. F. Warmewirtschaft* June 1924; Contribution No. 4 Schwedischen Ingenieur-Wissensch. Academie. The heat balance of old and modern sulphite and sulphate pulp mills are compared.—J. L. P.

Waste Heat in Pulp and Paper Mills. Von Lassberg. *Paper Trade J.* 79, No. 24, 45-49 (Dec. 11, 1924); No. 25, 49-54 (Dec. 18, 1924). A description of the different sources of waste heat in pulp and paper mills, giving an indication of the magnitude and suggesting methods for its recovery.—A. P. -C.

Avoidable Pulpwood Losses. D. C. Everest. *Paper* 35, 223, 263 (Nov. 27, 1924); *Paper Mill* 48, No. 48, 12, 14 (Nov. 29, 1924). Outline of the causes of loss of pulpwood through decay and of the means of preventing, or at least reducing, them.—A. P. -C.

Specks in Paper. Anon. *Allg. Anz. F. Druck* July 25, 1924; *Papierfabr.* 22, Tech.-Wiss Teil 437-439 (Sept. 21, 1924). The article is concerned with the source and prevention of specks in paper.—J. L. P.

Heat Losses in Pulp and Paper Manufacture. Lassberg. *Papierfabr.* 22, Tech.-Wiss. Teil 461-472 (Oct. 5, 1924). A thorough treatment of heat losses in the pulp and paper mills is given.—J. L. P.

Treatment of Raw Materials. Helen U. Kiely. *Paper Trade J.* 80, No. 2, 51-54 (Jan. 8, 1925). A discussion of the proper handling of raw materials such as rags, wood pulp, waste papers, and process supplies, from the standpoint of obtained accurate manufacturing costs.—A. P. -C.

Preparation of Wood for Digester Treatment. Ph. Nebrich vorm. Reinicke and Jasper. Ger. pat. 401,702. *Papierfabr.* 22, 444 (Sept. 21, 1924). Wood chips are passed between rollers to decrease the volume per unit weight of material.—J. L. P.

Schopp Rust Prevention Process for Pulp and Paper Mills. E. Belani. *Papierfabr.* 22, 689-697 (Nov. 2, 1924). The Schopp process for rust prevention consists essentially of the grinding of a metal, as zinc, aluminum, copper, lead, nickel, and iron, to a fine powder, which is later sprayed on the surface to be treated. A surface coating of 0.05 mm. is sufficient to prevent corrosion. The apparatus is described in detail.—J. L. P.

Waste Water in Paper Manufacture. Janata. *Papierfabr.* 22, 594-596 (Dec. 14); 601-604 (Dec. 21, 1924). A thorough discussion of the waste water question in the manufacture of paper.—J. L. P.

Filter Problem in Paper Mills. R. A. North. *Paper Mill* 49, No. 6, 96, 98 (Feb. 7, 1925). Brief discussion of the necessity of filtering fresh water coming into the mill and white water from the paper machine. White water should be first filtered through a fine screen (80 meshes or more) to remove the good fibers which can be reused, and then treated chemically and sent to sedimentation tanks if further purification is required before discharging it from the mill.—A. P. -C.

Use of Warm Water in the Manufacture of Paper. Anon. *Wochbl. Papierfabr.* 55, 2873-2874 (Nov. 8, 1924). The practice of using warm water in the manufacture of paper, such as parchment, leads to losses of material and difficulties on the paper machine. Its use is not recommended.—J. L. P.

Improving Efficiency in Manufacture and Utilizing Waste Products in the Manufacture of Paper. A. Ruby. *Papier* 27, 1391-1409 (Dec. 1924). After a general discussion of the importance of the subject from the triple standpoint of the nation, the mill and the workers, the author describes the general system of investigation to be followed in analyzing mill conditions, effecting the improvements found necessary, and getting the results expected of the improved equipment or process. He then describes at length the application of this system to the reduction of fuel consumption in the paper mill.—A. P. -C.

Influence of Water on the Fiber in the Manufacture of Paper. Janata. *Papierfabr.* 22, 529-533 (Nov. 9, 1924). In the processes for manufacturing paper water acts on the fibers in four ways: (1) water is held in or imbibed by the molecular interstices, forming water of swelling, imbibition, or hydration; (2) water is absorbed by the surface of the fiber, forming water of adhesion; (3) water combined in the fiber capillaries, so-called water of capillarity; (4) and uncombined water. The affinity of the water

for the fibers decreases in the order given. Removal of impurities from the fibers by washing is due to a loosening of the layer of incrustations on the fiber wall by the absorption of water and a swelling effect. In the mechanical disintegration of fibers the water, combined by the forces of adhesion and capillarity, plays an important role in the preparation of paper stock. The extent of the absorption of water, as water of adhesion, depends on the fibrous surface exposed. The relations between the volume changes of fibers on drying and the properties of the sheet are discussed.—J. L. P.

Lime in the Treatment of Trade Wastes. R. H. Ferguson. *Pulp and Paper* 23, 3-4 (Jan. 1, 1925). Brief review of the use of lime for purifying liquid effluents from manufacturing processes, including paper and board making.—A. P. -C.

De Vains Process Explained. James Strachan. *Paper* 35, 8-10 (Oct. 23, 1924). From an investigation into the isolation of straw cellulose with from 2 to 16% of caustic soda and corresponding consumption of chlorine the author concludes that: (1) In the hot digestion of straw with caustic soda, the reactions between the soda and the noncellulose are approximately quantitative within certain limits of soda consumption; but beyond these limits the fiber is attacked or mechanical difficulties arise in treating the pulp. (2) In chlorination of the boiled straw pulp, there are limits of chlorine consumption within which the reaction proceeds quantitatively, and beyond which other reactions arise involving increased consumption of chlorine. (3) In bleaching normal pulp, the main reaction is simultaneous chlorination and solution of chlorination products by the base of the hypochlorite; it is limited by the concentration of the hypochlorite solution and the nature of the noncellulose in the unbleached pulp. (4) Rational use of caustic soda and chlorine can be accomplished only by a combination of digestion, chlorination and bleaching, where the reactions involved proceed normally and within certain limits which are covered by the DeVains process. Within these limits one molecule of caustic soda does the work of one atom of chlorine and these materials are interchangeable in chemically equivalent quantities.—A. P.-C.

System for Recovering Waste Heat from Pulp Digesters. Escher Wyss & Co. Fr. pat. 564,252, Oct. 16, 1923. The digester is connected, through an intermediate storage tank, with a countercurrent heat exchanger, with which are also connected a cold water main and a hot water tank. The connections are arranged so that the spent liquor and the wash waters which are available intermittently, are first collected in the intermediate tank, from which they flow continuously through the heat exchanger. The digester is connected to the hot water tank by means of a special pipe which allows of discharging the steam from the digester into the tank before blowing. The intermediate storage and hot water tank are connected by a pipe through which passes the vapor generated by evaporation of the waste liquor. The pipe connecting the intermediate tank and the heat exchanger is provided with a regulator to ensure steady and continuous passage of the liquor from the tank to the exchanger. The intermediate tank is provided with suitable devices for purifying the liquids which flow into it.—A. P. -C.

New Mill of the Saranac Pulp & Paper Co. *Paper Mill* 49, No. 7, 16, 18 (Feb. 14, 1925). A description of the mill and its equipment.—A. P. -C.

Division of Pulp and Paper of the Forest Products Laboratories of Canada. E. P. Cameron. *Pulp & Paper* International No. 136-142 (Jan. 1925). A description of its equipment and work.—A. P. -C.

Finnish Central Industrial Laboratory. John Palmen. *Papier* 28, 49-51 (Jan. 1925). Outline of its organization and of the work carried out to date for the pulp and paper industry.—A. P.-C.

Polyglot Paper Lexicon. *Paper* 35, No. 17, 50-58 (Feb. 12, 1925). List of German, English and French equivalent terms for various pulp and paper products in general use.—A. P.-C.

Property Protection. I. R. McCall. *Paper Ind.* 6, 1926-1928 (Feb. 1925). Brief discussion of the necessity and economy of systematic painting in pulp and paper mills.—A. P.-C.

Hygiene in the Pulp and Paper Industry. F. G. Pedley. *J. Ind. Hygiene* 6, 28-40 (May 1924). A discussion of the accidents which can occur in pulp and paper mills, and of the precautions to be taken. The effects of chlorine and of sulphur dioxide are discussed at some length.—A. P.-C.

Three Million Dollar Plant of Brown Paper Mill Co. O. A. Chidester. *Paper Ind.* 6, 1761-1767 (Jan. 1925). Description of the mill.—A. P.-C.

Story of Bogalusa Kraft. *Paper* 35, 462-467 (Jan. 1, 1925). A description of the recently built kraft mill of the Bogalusa Paper Co. at Bogalusa, La.—A. P.-C.

Position of Paper Making in England. *Paper* 35, 543-546 (Jan. 15, 1925). An account of the history and development of the industry, with a statement of the educational needs of the workers.—A. P.-C.

Paper Research of the Bureau of Standards During the Fiscal Year 1923-1924. B. W. Scribner. *Paper Trade J.* 80, No. 3, 34-40, 68 (Jan. 15, 1925). Report of the work accomplished and published.—A. P.-C.

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Foresters and the Pulp and Paper Industry

By Bernard A. Chandler

In the past foresters have been used in the pulp and paper industry in technical capacities. Before the best type of forester will be employed in the more responsible positions, it will be necessary for all parties concerned to understand each other better than they do at the present time.

The forester has been the same to the woods end of the business that the civil, mechanical, electrical or chemical engineer has been to the other phases of the business. He has made the surveys and estimates, inspected the cuttings, worked out cost systems, and laid out roads and trails. In general, he has supplied the organization with the technical knowledge the woodsman and the executive did not have and has reported facts to the men higher up. The attitude of the executives toward him has been well summarized in the statement one corporation official made in regard to engineers in general: "We want them on tap but not on top." The forester has made a place for himself in this purely technical field but has had very little influence on the policies of the industry.

Type of Forester Not Often Found

There is a type of forester who is not often found in the industry. He has not been content to be purely a technical forester but has had ideas and policies of his own. These policies were not acceptable to the financial interests of industry because they would not produce dividends quick enough. They were usually conceived from the standpoint of the interests of the public rather than that of the stockholders. They were sound from that angle but would have defeated their purpose under the economic conditions which have existed in the past because if they had been put in force in any company or locality, those businesses would have failed. Prices could not have gone up to care for the increased cost because of competition with other companies or regions and capital could find plenty of opportunities where there were quicker returns. As fast as economic conditions have approached the period when these policies could be adopted from a financial standpoint, they have been put into operation through the efforts of a few foresters of this type who have stayed in the industry and others who have worked through public opinion.

Have Learned How to Make Suggestions

Those who have stayed in the industry have learned when, where, and how to make their suggestions; have been willing to win their places slowly; and have studied to adapt their ideas to the conditions in the industry. One of the men the writer has in mind became connected with one of the larger pulp companies in a purely technical capacity. He could not get his policies across directly but he began to write in the press advocating some of his policies for other companies and implying that his company had adopted those policies. The company soon found that it was getting some very valuable advertising in this way, but it had to begin to deliver the goods by putting these policies in force within its own company. That company has today a very well developed and far reaching forestry policy. The forester has been content for years with very small beginnings but within the last few years a reorganization of the personnel of the company has brought him into his own but at an age when he did not feel like undertaking some of the lines of work that he would have liked to have undertaken had the opportunity come when he was younger. Men of this type are few in number but they have worked up to places of responsibility and have a great deal of influence. Often they do not accept the policies advocated by other foresters because, through their keener understanding of the problems of the industry, they know that they cannot work. Thus much of the work of these foresters has not been appreciated by the forestry profession as a whole.

A large number have worked through public channels. These have practically shaped our public policies and have had a great deal of influence on public sentiment. The policies in the industry have in turn been influenced by both of these. A few of these men have come to understand the conditions in the industry so well that their advice has been sought by the industry. One of the first foresters to be employed in industry in this country probably feels that he accomplished little. The woodsmen who worked with him are still telling stories to show "what a fool he was." Some of the things he started proved not to be so foolish and are being carried on by the company. The man "cut his eye teeth." Today he is respected and trusted by many different companies in the lumber industry and his advice is often sought.

The influence of men of this group has been indirect but it has been considerable.

In the above paragraphs the writer has summarized the relationship which has existed in the past between the pulp and paper industry and foresters. There is a feeling which is becoming more and more general in the minds of the general public, the investing public, and the executives in the industry that we are entering a new economic period in which the policies of the forester who thinks in the terms of a long economic cycle will have to be given more consideration. The general public is not thinking clearly but it is becoming insistent that something be done more than is being done. The investing public is looking a little more to the security back of the investment and a little less at the past earnings. It is beginning to realize that forest resources are necessary in order to make investments in wood using industries safe. The executives are feeling that if they are to get the necessary credit in the future financial markets, it is going to be necessary for them to be able to show sound methods of forest management. It seems that the forester with a good technical training plus "that something else" will soon find a bigger opportunity in the pulp and paper industry than he has ever had in the past.

Valuable Characteristics Under New Conditions

The very characteristics which have kept the forester from making a big success in the industry in the past will under these new conditions, make him most valuable. Most of the men in the industry are weak where he is strong. He has been trained to think and analyze things before taking action. Through his study of tree growth and the development of forestry in Europe, he has trained himself to think in long cycles of time. He has had in mind the interests of the public and, therefore, usually knows how to handle it. He is one of the few men who has worked intimately with and understands the rural public and at the same time has sufficient education to work up into the higher positions in the industry. The lines of work which he may be used for are technical, correlative, executive and analytical.

As stated above foresters have already won their places in the purely technical field. In every business which has grown until it has become departmentalized, it is necessary to have men who can correlate the work of different departments. The Woods and Accounting Departments are two which can best be correlated by a forester. Woodsmen have been trained by experience and have not had much schooling. They have not understood the value of accurate accounts and have not been able to state the facts of the woods operations in the terms of the accountant. Neither have the accountants been able to get at the facts by letting the woodsmen talk in their own language. As a result of this condition, the capital accounts relating to the woods operations have often been very much misstated and in recent years the getting of costs of woods operations have been very difficult. In many lines engineers have had to take an active part in work-

ing out cost systems. The writer believes that foresters will have to become the correlating men between the woods operations and the accounts.

Correlating of Different View Points

Another closely related field is the correlating of the managers and investors' view point in regard to capital accounts. Stockholders want annual dividends but they want those dividends to be earned and not to be the capital they have invested returned to them as earned dividends. Bondholders are very much interested in the security of the funds they have loaned. On the other hand, the men directly responsible for the management are often so interested in showing annual earnings that the accuracy of the accounts is sacrificed. The point is this: There is a cross pull involved in this problem and the forester's instinctive viewpoint is inclined to neutralize that of the man who feels too strongly the pressure for annual profits. When the forester has found his place in the industry, he will be recognized as one of the guardians of the invested capital. He will be an advocate of sound invested capital accounting.

There are many other lines which the forester can help correlate, among which may be mentioned: forest construction work and road location, with engineering; woods operation needs with general management policies; and management policies as indicated by present manufacturing, financing and selling conditions, with those coditions, which will secure a future sympathetic public, both general and rural.

Two Types of Minds

Near the top of every business there must be two types of minds and it is seldom that they are both found in the same individual. There must be the promoter, creative thinker or planner and the doer, or executive. As a rule, foresters will find their ultimate place in the industry in the former capacity but there are many foresters who have developed rare executive ability. Their work in the woods has usually developed the health and energy which is so necessary. They are usually men of progressive minds, who can think independently and will not be deterred by the fear of adverse criticism. Someone has defined the executive as "The man who can make decisions on the spur of the moment and is sometimes right." The day of that kind of executive is passing. The man now needed is the man who can decide quickly because he has the background of knowledge which enables him to see things in their proper relationship. The forester's training supplemented by experience in the industry gives him the background which will enable him to solve problems which the executive of pulp and paper companies are going to be facing in the near future. Because of his training, he knows how to provide beforehand to have the necessary facts at hand when needed. Thus it seems probable that many foresters will work into executive positions in the pulp and paper industry.

One of the Big Problems

One of the big problems this industry is now facing and which is going to become more and more pressing is that of its future supply of pulpwood. It is in the working out of the solution of this problem that the forester, who is the creative anayltical thinker and planner rather than the executive will find his greatest job and will be of the most value. The problem demands the careful analysis of many facts and the creation of a plan as the result of this analysis. The present timber holdings, the present cost per cord of both physical and economic depreciation of the unmovable investment in the mill, the probable losses of timber due to insects, diseases and fire, possible other sources of supply, probable development of substitutes, and the probable future situation as to the importation of wood from Canada are some of the points which must be considered and carefully analyzed. The plan when once developed and adopted as a policy must be carried through consistently if it is to accomplish its purpose. On the other hand, it must be sufficiently elastic so that it can be adapted to the changing financial conditions of the company in question and the economic cycles of business in general. Absolute cooperation must be secured between the departments or men responsible for timberland management, pulpwood and logging operations, and purchasing of pulpwood.

Making One Department Responsible

The policy which it seems to the writer the pulp and paper companies should be working towards is one which would make one department fully responsible for the present and future pulpwood supply. The timberlands department, pulpwood purchasing department and pulpwood or logging department should as soon as practicable be combined in one department. This is necessary that all the work of these departments may be coordinated under one head. It is usually impossible for the presidents or general managers of most companies to keep sufficiently in touch with the details of these different lines of work to be able to correlate them. Without such a unifying head, there would be times when the men in charge of these lines of work would fail to pull together. It should be the ultimate aim to have a forester of the type described above at the head of this department. If the present organization is handling the situation in a satisfactory manner probably several young foresters should be taken into the organization in subordinate positions and allowed to grow up with the company and the best man promoted to the head. If a reorganization is necessary it may be possible to find the right man at once.

Under some circumstances it might be well to find the man and take him on as an assistant to the president and thus give him a chance to lay his foundation.

Opportunity for Constructive Work

This big opportunity for constructive work in the pulp and paper industry for the forester who is a technical man plus a native born determination and vision which will not let him be just a technical forester, plus education and experience, which will enable him to do this work for the industry better than men with any other training indicates that two things should be done:

1. That individual companies in the industry should work out policies aiming to give this type of forester bigger places in their organization.

2. Foresters should look well to their past training and experience and supplement it as rapidly as possible, where necessary, in order that opportunities may not be lost for the want of men qualified to do the work.

Paper Machinery Co. Issue Handsome Circular

The Paper and Textile Machinery Company successors to the Sandusky Foundry and Machine Company, Sandusky, Ohio, has just issued a handsome rotogravure circular, 16½ x 21 inches descriptive of its work and the application of its processes and products to various industries. In a foreward to the circular the company says:—

"The business was begun in 1904 by W. H. Millspaugh, president of the present company. It has grown from a modest beginning until the 1925 assets are $1,550,000, and the company ranks as the largest manufacturer of brass, bronze and copper tubular products in the world. Unique methods of manufacture and originality in conception and design of specialty equipment have gained pre-eminence for the company's products in the Paper, Textile, Marine and Printing Industries. This roto circular illustrates particularly the application of our equipment to the textile field. Paper used in this circular was made by the Kimberly-Clark Company of Appleton, Wis., over Millspaugh Suction Couch and Suction Press Rolls. The printing was done by the Art Gravure Corporation of Cleveland, Ohio, over pure copper cylinders made in our works."

PAPER AND PAPER STOCKS IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending April 30, 1925, and for the Ten Months Ended April 30, 1925, as Compared with Corresponding Months of Previous Year

IMPORTS—PAPER.

Paper and Manufactures of	April 1924 Quantity	April 1924 Value	April 1925 Quantity	April 1925 Value	Ten Months Ending April 30 1924 Quantity	Ten Months Ending April 30 1924 Value	Ten Months Ending April 30 1925 Quantity	Ten Months Ending April 30 1925 Value
Paper, except printed matter (total)	.....	$9,956,078	.....	$9,974,204	.....	$98,110,089	.....	$97,906,289
Printing paper—								
Standard news print.....lbs..free	223,887,721	8,590,359	247,345,832	8,763,214	2,224,670,266	83,910,756	2,315,344,986	84,313,814
Imported from—								
Finland	2,475,203	77,838	5,275,800	165,969	56,876,242	1,843,601	2,816,027	1,678,093
Germany	6,354,431	208,070	5,807,803	172,307	92,265,373	2,980,737	45,258,985	1,355,052
Netherlands	169,911	5,311	.....	.....	405,504	12,953	1,193,359	39,638
Norway	688,930	21,836	1,710,524	53,624	37,059,699	1,278,887	34,786,361	1,100,064
Sweden	4,875,315	45,045	9,550,864	279,665	5,287,471	3,072,231	125,203,321	3,871,196
Canada	209,036,105	8,124,714	224,726,608	8,083,512	1,936,846,443	74,536,205	2,042,661,717	75,827,051
Other countries	287,826	7,545	274,233	8,137	5,929,534	186,142	13,425,216	442,720
All other, n. e. s.....lbs..dut.	2,813,152	111,614	1,314,317	70,629	17,373,515	783,855	20,556,790	925,779
Grease-proof and water-proof papers.lbs..dut.	77,403	8,728	311,870	38,522	2,325,651	219,370	1,281,911	156,845
Wrapping paper .....lbs..dut.	.....	.....	.....	.....	[1]44,709,325	[1]1,939,824	.....	.....
Kraft wrapping paper .....lbs..dut.	2,497,246	91,964	1,364,632	57,671	[2]12,336,016	[2]460,367	17,713,766	712,352
All other, wrapping paper.....lbs..dut.	1,447,138	54,167	480,672	21,993	[2]7,201,046	[2]272,362	10,989,506	449,653
Writing, drawing, bond, etc.....lbs..dut.	174,570	45,945	336,281	55,432	2,246,841	428,983	2,644,295	589,218
Surface coated .....lbs..dut.	122,706	37,629	91,046	35,776	1,235,245	280,205	1,610,926	413,145
Tissue paper .....lbs..dut.	162,094	89,467	208,438	92,903	1,772,170	748,027	2,368,473	927,893
Paper boards—								
Pulp boards in rolls.....lbs..dut.	7,642,062	210,043	6,840,938	177,314	65,648,268	1,858,809	58,647,103	1,577,028
Other paper boards, n. e. s.....lbs..dut.	2,320,046	53,325	3,442,732	77,894	20,867,401	588,180	27,198,005	637,229
Cigarette paper, cigarette books and covers .....lbs..dut.	634,446	172,800	584,014	154,099	8,265,111	2,063,210	7,712,556	2,172,323
Photographic paper .....lbs..dut.	230,333	46,431	232,862	56,640	2,260,836	467,379	2,497,373	533,656
Hanging paper .....lbs..dut.	1,529,251	74,753	463,170	43,647	12,600,376	579,563	8,894,500	478,970
Paper boxes .....lbs..dut.	123,561	84,746	188,467	110,950	[2]456,188	[2]291,158	1,908,146	1,235,607
Decalcomania, not printed.....lbs..free	68,843	19,262	27,938	10,590	347,258	88,544	437,198	108,304
All other .....dut.	.....	264,845	.....	207,130	.....	3,129,497	.....	2,674,473
Books and other printed matter (total)	.....	740,809	.....	898,743	.....	7,236,289	.....	9,224,376
Books and pamphlets in foreign languages .....lbs..free	241,515	114,003	173,245	176,134	1,640,280	885,661	1,935,939	1,364,256
Books, maps, music, etc., 20 years old .....lbs..free	33,332	69,637	51,270	178,623	284,367	1,040,799	334,342	1,949,098
Other books, etc. .....lbs..free	203,252	165,897	213,356	159,027	1,830,070	1,215,232	2,105,123	1,586,350
Books, pamphlets and music, n. e. s.lbs..dut.	274,352	186,580	235,079	191,589	2,947,956	2,032,712	2,790,436	2,096,709
Maps, charts, and other printed matter, n. e. s.....dut.	.....	82,324	.....	67,272	.....	681,504	.....	754,234
Lithographically printed matter, n. e. s.—								
Cigar bands, labels and flaps....lbs..dut.	9,496	13,507	53,063	13,303	190,432	176,103	123,699	108,570
Decalcomanias .....lbs..dut.	26,635	35,736	26,342	39,739	200,022	283,525	224,264	331,552
All other .....dut.	.....	73,125	.....	73,056	.....	920,753	.....	1,033,607

CRUDE PAPER STOCK.

Rags for paper stock.....lbs..free	45,106,885	1,025,389	42,677,625	1,218,666	350,627,252	6,740,789	504,364,617	13,453,844
Waste bagging, waste paper, etc...lbs..free	11,317,573	121,190	9,473,035	154,370	84,883,380	1,021,203	101,731,571	1,455,772
Old rope and all other paper stock.lbs..free	9,430,093	498,130	5,859,400	352,278	78,895,752	3,980,532	68,967,194	3,761,874

WOOD PULP.

Mechanically ground wood pulp..tons..free	13,707	458,173	19,411	572,718	209,449	7,244,037	210,815	6,643,561
Chemical wood pulp—								
Sulphite, unbleached .....tons..free	22,297	1,137,128	33,015	1,825,313	386,023	22,733,949	521,931	27,731,462
Sulphite, bleached .....tons..free	19,171	1,476,521	26,007	1,947,784	201,555	17,119,838	261,962	19,642,448
Total sulphite .....tons	41,468	2,613,649	59,022	3,773,097	587,578	39,853,787	783,893	47,373,910
Imported from—								
Finland	927	54,641	5,380	251,755	40,701	2,484,886	48,325	2,488,966
Germany	1,732	113,861	5,607	348,118	41,740	2,921,731	72,183	4,251,300
Norway	518	27,797	10,044	676,601	50,220	4,103,967	66,799	4,650,713
Sweden	5,287	279,863	7,587	431,875	184,711	11,786,160	278,340	15,512,127
Canada	30,385	1,966,926	27,344	1,897,416	253,094	17,724,988	288,416	18,788,221
Other countries	2,619	170,561	3,060	167,332	17,112	832,055	29,830	1,682,583
Sulphate pulp, unbleached (kraft pulp) .....tons..free	14,519	900,251	20,270	1,231,890	209,636	13,264,218	259,876	14,741,544
Imported from—								
Finland	652	35,894	1,105	54,592	7,024	419,555	12,577	615,742
Norway	70	4,085	1,350	78,735	9,736	536,985	11,519	634,659
Sweden	2,253	113,222	5,553	310,612	79,984	4,806,513	128,415	6,760,796
Canada	11,544	747,050	11,787	764,400	111,136	7,381,273	102,811	6,489,618
Other countries	.....	.....	475	23,551	1,756	119,892	4,554	240,729
Sulphate pulp, bleached .....tons..free	92	9,206	148	10,267	5,863	406,137	28,316	1,594,779
Other pulp .....tons..free	127	8,923	199	15,320	6,451	391,270	1,819	126,916

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS.

Colors, dyes, stains, color acids, and color basis, n. e. s.....lbs..dut.	206,986	238,587	537,928	768,902	2,644,890	3,495,985	4,096,896	5,605,680
Imported from—								
France	5,379	8,254	16,162	20,276	168,451	268,921	103,019	149,753
Germany	105,315	99,381	293,997	432,045	1,326,713	1,589,782	2,108,496	2,992,003
Italy	17,317	24,717	21,877	25,642	176,669	242,570	161,856	219,074
Switzerland	41,273	68,765	132,683	177,512	712,826	1,085,852	1,283,282	1,716,133

[1] July 1 to Dec. 31, 1924. [2] Beginning Jan. 1, 1925

(*Continued on page* 70)

PAPER AND PAPER STOCKS IMPORTS AND EXPORTS OF THE UNITED STATES

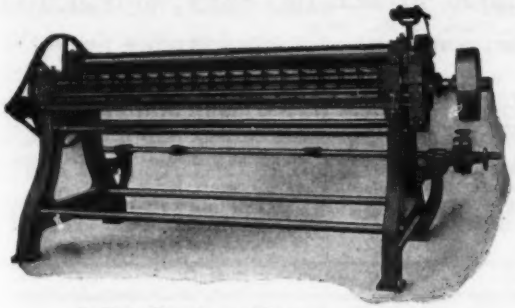
(*Continued from page 69*)

Paper and Manufactures of	April 1924 Quantity	April 1924 Value	April 1925 Quantity	April 1925 Value	Ten Months Ending April 30 1924 Quantity	Ten Months Ending April 30 1924 Value	Ten Months Ending April 30 1925 Quantity	Ten Months Ending April 30 1925 Value
United Kingdom	20,436	$15,328	16,102	$13,797	83,177	$84,658	136,544	$124,226
Other countries	17,266	22,142	57,107	99,630	177,054	224,202	303,699	404,491
Casein or lactarine....lbs..dut.	2,077,120	159,383	2,582,832	181,412	13,847,455	1,688,852	15,099,453	1,086,671
Kaolin, china, and paper clay....tons..dut.	37,245	391,148	30,946	308,069	231,294	2,430,310	278,584	2,666,379
EXPORTS—PAPER								
Paper, except printed matter (total)	.....	$2,080,897	.....	$2,105,921	.....	$20,061,026	.....	$19,365,564
Printing paper—								
Newsprint paper ....lbs.	3,183,618	157,186	3,855,116	168,423	26,986,635	1,355,803	28,472,249	1,387,628
Exported to—								
Canada ....lbs.	187,600	13,904	283,000	17,124	1,084,681	88,046	852,642	60,902
Central America ....lbs.	41,566	2,216	79,824	3,962	827,032	41,608	645,639	34,374
Mexico ....lbs.	344,134	14,312	182,092	7,855	1,495,196	76,582	1,793,271	91,794
Cuba ....lbs.	1,982,514	94,745	1,887,975	73,381	15,936,175	731,763	13,155,313	556,087
South America ....lbs.	140,934	8,235	583,574	26,818	1,491,240	80,945	4,905,867	241,723
Japan ....lbs.	.....	.....	92,135	6,195	1,129,917	72,222	433,146	30,948
Philippine Islands ....lbs.	377,885	18,371	703,885	30,975	3,534,988	170,339	3,726,898	171,038
Other countries ....lbs.	108,985	5,403	42,631	2,113	1,487,406	94,298	2,959,473	200,762
Book paper, not coated ....lbs.	1,257,577	143,925	1,485,008	162,927	17,663,299	2,024,601	16,327,627	1,771,642
Exported to—								
United Kingdom ....lbs.	72,385	14,530	6,918	947	629,425	119,855	311,182	64,953
Canada ....lbs.	114,544	17,163	325,909	31,777	1,636,774	213,725	1,564,258	186,324
Central America ....lbs.	98,617	9,808	94,798	9,609	699,797	81,952	550,008	59,642
Mexico ....lbs.	132,295	13,496	79,370	10,237	1,197,490	142,180	1,963,401	221,614
Cuba ....lbs.	122,842	12,969	409,785	43,102	3,716,295	410,912	3,708,442	382,445
Argentina ....lbs.	132,787	11,185	41,198	4,161	696,010	86,672	503,034	53,476
Brazil ....lbs.	35,642	4,272	14,141	1,724	484,864	57,525	275,329	34,270
Venezuela ....lbs.	18,221	1,288	41,068	4,190	496,083	52,722	392,646	42,122
Other South America ....lbs.	92,431	10,102	68,079	7,680	940,988	115,486	1,098,426	119,363
China ....lbs.	25,121	5,148	73,852	13,143	2,241,101	217,494	3,445,572	322,216
Japan ....lbs.	97,222	13,440	48,309	6,002	1,355,703	137,133	254,163	28,606
Philippine Islands ....lbs.	173,043	14,701	102,141	8,998	1,835,093	169,555	1,068,713	101,580
Australia ....lbs.	60,727	5,726	66,901	7,509	708,566	91,046	408,398	45,563
Other countries ....lbs.	81,700	10,097	112,539	13,848	1,025,110	128,344	784,055	109,468
Cover paper ....lbs.	70,989	12,016	96,023	18,331	836,898	151,105	874,456	169,284
Grease proof and waterproof paper....lbs.	131,872	17,842	251,767	27,950	1,489,664	189,513	1,342,349	158,097
Wrapping paper—								
Kraft paper ....lbs.	31,644	2,864	47,248	4,557	705,808	70,775	467,144	49,153
Other wrapping ....lbs.	147,272	197,888	2,471,939	184,129	20,010,196	1,699,530	21,446,588	1,653,627
Surface-coated paper ....lbs.	174,014	26,553	342,258	50,723	2,893,711	451,789	2,682,989	386,787
Tissue and crêpe paper ....lbs.	226,694	56,321	314,624	79,656	2,782,486	707,642	2,777,934	747,665
Toilet paper ....lbs.	390,104	49,018	392,983	49,969	3,416,578	393,021	3,747,180	459,128
Paper towels and napkins ....lbs.	138,575	21,418	198,976	28,791	1,034,775	180,971	1,139,374	185,222
Box board ....lbs.	.....	.....	1,446,357	60,650	.....	.....	[3]3,713,381	[3]149,219
Bristols and bristol board ....lbs.	71,994	9,096	71,744	9,027	1,089,504	101,999	679,818	85,991
Other paper board and strawboard....lbs.	6,294,900	275,864	2,760,021	125,961	54,873,195	2,409,259	44,108,051	1,725,146
Sheathing and building paper ....lbs.	344,096	15,213	1,201,506	61,008	3,651,569	167,918	9,099,745	438,075
Wall board of paper or pulp ....Sq. ft.	1,604,779	45,837	1,348,830	43,122	16,910,140	576,369	12,246,429	423,996
Blotting paper ....lbs.	148,669	20,079	315,898	38,532	[1]895,177	[1]109,665	2,244,005	265,926
Filing folders, index cards, and other office forms ....lbs.	48,770	15,861	67,414	19,968	[1]160,655	[1]57,695	437,342	140,510
Papeteries (fancy writing paper)....lbs.	24,036	9,543	44,692	14,761	309,039	127,202	412,953	140,569
Other writing paper ....lbs.	262,440	58,348	263,452	37,043	4,469,202	783,704	2,764,636	459,963
Cigarette paper and books....lbs.	115,677	51,076	14,078	5,501	776,816	263,250	464,586	146,222
Photographic paper ....lbs.	149,116	162,248	134,978	116,067	1,217,472	1,157,994	1,299,999	1,163,259
Paper hangings (wall paper) ....yards	1,837,942	70,835	2,748,820	59,439	21,790,753	561,202	21,865,788	541,872
Paper bags ....lbs.	1,197,479	106,945	977,289	82,623	7,214,224	767,294	9,511,406	818,473
Boxes and cartons ....lbs.	1,497,473	112,284	1,544,637	114,479	10,030,171	930,152	11,517,163	990,571
Carbon paper ....lbs.	87,405	67,692	116,855	97,223	736,431	571,276	768,685	629,280
Envelopes ....lbs.	198,874	37,377	251,228	47,555	2,162,325	438,287	2,127,239	405,185
Cash register and adding machine paper.lbs.	106,683	10,995	173,479	16,666	1,075,526	122,542	1,197,945	127,098
Other paper and paper products....lbs.	2,008,742	326,573	1,796,184	380,840	22,906,153	3,690,468	32,273,192	3,745,976
Books, maps, pictures, and other printed matter (total)	.....	1,716,618	.....	1,737,178	.....	16,425,407	.....	17,179,013
Books and pamphlets ....lbs.	2,996,772	742,639	4,079,548	907,937	25,419,616	7,983,691	32,304,231	8,614,549
Maps and charts ....lbs.	8,273	11,121	30,020	27,856	132,208	135,149	177,646	171,330
Music in books or sheets ....lbs.	63,655	33,590	32,749	19,302	547,318	312,913	499,651	303,210
Souvenir post cards ....lbs.	50,889	13,338	36,796	20,311	482,850	190,985	329,570	178,198
Lithographically printed matter, except post cards and maps ....lbs.	180,880	219,282	261,562	174,840	1,729,230	1,338,787	2,246,556	1,569,797
Playing cards ....packs	517,172	60,228	679,195	72,438	6,129,535	673,427	5,755,034	617,054
Other printed matter ....lbs.	1,528,978	636,420	1,496,277	514,494	16,008,251	5,790,455	15,965,871	5,724,875
WOOD PULP AND PAPER STOCK.								
Sulphite wood pulp ....tons	1,495	89,013	1,861	108,752	12,769	734,618	18,983	1,121,366
Soda wood pulp ....tons	267	26,149	93	7,114	1,585	154,840	1,653	155,918
Other wood pulp ....tons	96	7,219	898	123,949	2,637	146,997	8,456	908,525
Rags, and other paper stock....lbs.	11,425,903	186,201	15,036,581	250,567	105,141,064	1,740,834	114,279,233	1,918,403
PAPER AND PULP MILL MACHINERY.								
Paper and pulp mill machinery....lbs.	480,714	147,099	568,376	108,655	8,002,105	1,627,508	6,203,508	1,350,232

[1]Jan. 1 to Apr. 30. [3]July 1 to Dec. 31.

The "Dietz" Toilet Paper Machines

For making Toilet Paper Rolls with or without perforations



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Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JUNE 27, 1925

SUMMARY

News print.....503 bls., 2,864 rolls
Wrapping paper..240 bls., 179 rolls, 65 bdls., 12 cs.
Printing paper .....400 cs., 77 rolls
Wall paper .....11 bls., 6 cs., 58 pgs.
Cigarette paper .....2,024 cs.
Packing paper .....838 bls., 12 cs.
Surface coated paper .....411 cs.
Colored paper .....33 cs.
Writing paper .....12 cs.
Drawing paper .....55 cs.
Filter paper .....124 bls., 9 cs.
Fancy paper .....10 cs.
Decalcomania paper .....12 cs.
Cover paper .....4 cs.
Paper hangings .....44 bls., 5 cs.
Parchment paper .....10 cs.
Basic paper .....76 cs.
Kraft paper .....147 rolls
Photo paper .....5 cs.
Gold-coated paper .....2 cs.
Silk and parchment paper .....3 cs.
Wallboard .....37 cs.
Spools of paper .....25 cs.
Molded paper .....12 cs.
Miscellaneous..113 cs., 301 bls., 18 pgs., 1,817 rolls

CIGARETTE PAPER

Standard Products Corp., Liberty, Havre, 40 cs.
Liggett & Myers Tobacco Co., by same, 19 cs.
American Express Co., Suffren, Havre, 1 cs.
American Tobacco Co., Olen, Bordeaux, 1,950 cs.
Max Spiegel & Son, Roussillon, Bordeaux, 14 cs.

WALL PAPER

A. C. Dodman, Jr., Mauretania, Southampton, 3 bls.
A. C. Dodman, Jr., by same, 1 cs.
Hudson Forwarding & Shipping Co., Mauretania, Havre, 4 cs.
F. J. Emmerich Co., Mount Clay, Hamburg, 3 bls.
F. J. Emmerich Co., Cedric, Liverpool, 4 bls.
W. H. S. Lloyd & Co., Carmania, Liverpool, 58 pgs.
R. F. Downing & Co., Aquitania, Bordeaux, 1 bl.
Hudson Forwarding & Shipping Co., Aquitania, Havre, 1 cs.

PAPERHANGINGS

A. C. Dodman, Jr., Carmania, Liverpool, 2 bls.
W. H. S. Lloyd & Co., Minnekahda, London, 5 cs.
W. H. S. Lloyd & Co., by same, 42 bls.

NEWS PRINT

J. P. Hefernan Paper Co., Lucia, Trieste, 399 bls.
J. H. Scott Paper Co., Andania, Hamburg, 104 bls.
Parsons & Whittemore, Inc., Muenchen, Bremen, 623 rolls.
New York Evening Graphic, Thorsdal, Three Rivers, 474 rolls.
To order, by same, 1,767 rolls.

PRINTING PAPER

C. Steiner, N. Amsterdam, Rotterdam, 33 cs.
Steiner Paper Corp., by same, 18 cs.
International Forwarding Co., by same, 17 cs.
International Forwarding Co., Ryndam, Rotterdam, 14 cs.
Titan Shipping Co., Mauretania, Havre, 11 cs.
Titan Shipping Co., Aquitania, Havre, 13 cs.
P. C. Zuhlke, Belgenland, Antwerp, 112 cs.
P. Puttman, by same, 3 cs.
B. F. Drakenfeld & Co., Carmania, Liverpool, 28 cs.
National City Bank, Andania, Hamburg, 30 cs.
Maurice O'Meara Co., Muenchen, Bremen, 37 cs.
Maurice O'Meara Co., by same, 77 rolls.
American Shipping Co., Resolute, Hamburg, 3 cs.
Paper House of Pennsylvania, President Harding, Bremen, 81 cs.

WRAPPING PAPER

W. Hartman & Co., Inc., Lucia, Trieste, 240 bls.
Chemical National Bank, Mount Clay, Hamburg, 121 rolls.
E. Dietzgen & Co., by same, 7 cs.
Irving Bank, Columbia Trust Co., Stockholm, Gothenburg, 65 bls.
F. C. Strype, Zeeland, Antwerp, 58 rolls.
F. C. Strype, by same, 5 cs.

PACKING PAPER

J. P. Hefernan Paper Co., Ryufuku Maru, Hamburg, 685 bls.
J. P. Hefernan Paper Co., Stockholm, Gothenburg, 153 bls.
F. C. Strype, by same, 12 cs.

KRAFT PAPER

Arkell Safety Bag Co., Stockholm, Gothenburg, 147 rolls.

PHOTO PAPER

Queens Blue Print Works, Mount Clay, Hamburg, 5 cs.

GOLD COATED PAPER

C. B. Richard & Co., President Roosevelt, Bremen, 2 cs.

SURFACE COATED PAPER

P. C. Zuhlke, Belgenland, Antwerp, 218 cs.
P. Puttman, by same, 26 cs.
Gevaert Co. of America, by same, 17 cs.
L. De Jonge, Andania, Hamburg, 4 cs.
Whiting & Patterson Co., Inc., by same, 1 cs.
M. G. Prager Co., Inc., by same, 22 cs.
P. Puttman, Zeeland, Antwerp, 109 cs.
Gevaert Co. of America, by same, 14 cs.

BASIC PAPER

Globe Shipping Co., Zeeland, Antwerp, 76 cs.

DRAWING PAPER

Favor Ruhl & Co., Minnekahda, London, 7 cs.
E. Dietzgen & Co., Ryufuku Maru, Hamburg, 48 cs.

FILTER PAPER

H. Reeve, Angel & Co., Inc., Minnekahda, London, 9 cs.
Orbis Products Trading Co., Olen, Bordeaux, 40 bls.
A. Giese & Son, Roussillon, Bordeaux, 84 bls.

SILK AND PARCHMENT PAPER

S. Gilbert, Ryndam, Rotterdam, 3 cs.

PARCHMENT PAPER

S. Gilbert, N. Amsterdam, Rotterdam, 5 cs.
Martin Winter, Mount Clay, Hamburg, 5 cs.

DECALCOMANIA PAPER

L. A. Consmiller, Pr. Roosevelt, Bremen, 12 cs.

COLORED PAPER

Overton & Co., Pr. Roosevelt, Bremen, 3 cs.
P. H. Petry & Co., N. Amsterdam, Rotterdam, 13 cs.
O. G. Zohrfeld, Inc., Belgenland, Antwerp, 1 cs.
P. H. Petry & Co., Mount Clay, Hamburg, 5 cs.
C. W. Williams & Co., Zeeland, Antwerp, 9 cs.
Catty & Co., by same, 2 cs.

FANCY PAPER

Whiting & Patterson Co., Inc., Mauretania, London, 7 cs.
Whiting & Patterson, Inc., Aquitania, London, 3 cs.

WRITING PAPER

Guibout freres, Paris, Havre, 6 cs.
Japan Paper Co., by same, 4 cs.
American Express Co., Liberty, Havre, 2 cs.

WALLBOARD

O. M. Baxter, Inc., Stockholm, Gothenburg, 37 cs.

SPOOLS OF PAPER

J. I. Bernitz, Anaconda, Rotterdam, 25 cs.

FOLDED PAPER

Kupfer Bros. & Co., Hellen, Marseilles, 12 cs.

COVER PAPER

International Forwarding Co., Resolute, Hamburg, 4 cs.

MISCELLANEOUS PAPER

Keuffel & Esser, N. Amsterdam, Rotterdam, 16 cs.
Globe Shipping Co., by same, 3 cs.
Japan Paper Co., C. Verde, Genoa, 34 cs.
J. Wanamaker, Mauretania, Havre, 1 cs.
Perkins, Goodwin & Co., California, Glasgow, 18 cs.
T. F. Wilmot, Minnekahda, London, 1 cs.
Japan Paper Co., Suffren, Havre, 9 cs.
Coenca Morrisson Co., by same, 5 cs.
A. C. Dodman, Jr., Paris, Havre, 18 pgs.
James A. Hearn & Son, by same, 6 cs.
International Forwarding Co., by same, 10 cs.
Standard Products Corp., by same, 5 cs.
E. H. Sergeant & Co., Stockholm, Gothenburg, 4 cs.
Arkell Safety Bag Co., by same, 88 bls.
Arkell Safety Bag Co., by same, 70 rolls.
Hope Paper Co., by same, 23 rolls.
C. G. Winans, by same, 74 bls.
C. G. Winans, by same, 1,394 rolls.
Universal Paper Co., by same, 330 rolls.
Universal Paper Co., by same, 54 bls.
Kolesch & Co., by same, 1 cs.

RAGS, BAGGINGS, ETC.

E. J. Keller Co., Inc., N. Amsterdam, Rotterdam, 116 bls. rags.
American Woolstock Corp., by same, 104 bls. paper stock.
The Barrett Co., by same, 88 bls. rags.
Atlas Waste Mfg. Co., by same, 38 bls. old carpets.
D. M. Hicks, by same, 34 bls. rags.
National Bank of Commerce, Juno, Alexandria, 129 bls. rags.
National City Bank, London Mariner, London, 268 bls. rags.
Brown Bros. & Co., by same, 100 bls. bagging.
State Bank, by same, 181 bls. paper stock.
G. M. Graves Co., by same, 94 bls. rags.
R. M. Gray, Inc., Belgenland, Antwerp, 173 bls. flax waste.
E. J. Keller Co., Inc., by same, 175 bls. flax waste.
E. J. Keller Co., Inc., by same, 46 bls. linen threads.
I. Abela & Co., Lucia, Trieste, 135 bls. rags.
International Acceptance Bank, by same, 130 bls. rags.
The Stone Bros. Co., Inc., California, Glasgow, 54 bls. paper stock.
A. F. Fenton, Inc., by same, 81 bls. rags.
Mechanics & Metals National Bank, by same, 16 bls. bagging.
Amtorg Trading Co., Andania, Hamburg, 101 bls. rags.
E. J. Keller Co., Inc., Mount Clay, Hamburg, 217 bls. bagging.
E. J. Keller Co., Inc., by same, 121 bls. rags.
E. J. Keller Co., Inc., by same, 25 bls. new cuttings.
E. J. Keller Co., Inc., by same, 26 bls. linseys.
State Bank, Mount Clay, Hamburg, 33 bls. rags.
Brown Bros. & Co., by same, 149 bls. rags.
E. J. Keller Co., Inc., Ryufuku Maru, Hamburg, 200 bls. rags.
A. W. Fenton, Inc., by same, 224 bls. rags.
National City Bank, Muenchen, Bremen, 82 bls. jute card waste.
A. W. Fenton, Inc., Cold Harbor, Manchester, 179 bls. bagging.
E. J. Keller Co., Inc., Frederick VIII, Copenhagen, 430 bls. rags.
Chemical National Bank, Salina, Naples, 74 bls. rags.
E. J. Keller Co., Inc., Silvia, Alexandria, 3 bls. bagging.
E. J. Keller Co., Inc., by same, 15 bls. rags.
E. J. Keller Co., Inc., by same, 1 bl. hair.
National Bank of Commerce, Hellen, Alexandria, 140 bls. rags.
National Bank of Commerce, Hellen, Marseilles, 264 bls. rags.
E. J. Keller Co., Inc., Hellen, Naples, 45 bls. rags.
Brown Bros. & Co., Hellen, Barcelona, 82 bls. rags.
Chemical National Bank, by same, 92 bls. rags.
E. Butterworth & Co., Inc., by same, 169 bls. paper stock.
E. J. Keller Co., Inc., Anaconda, Rotterdam, 342 bls. rags.

(*Continued on page 74*)

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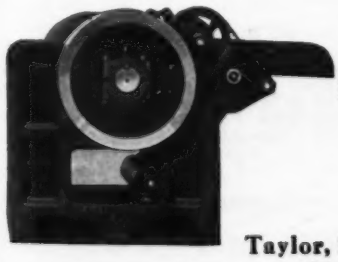

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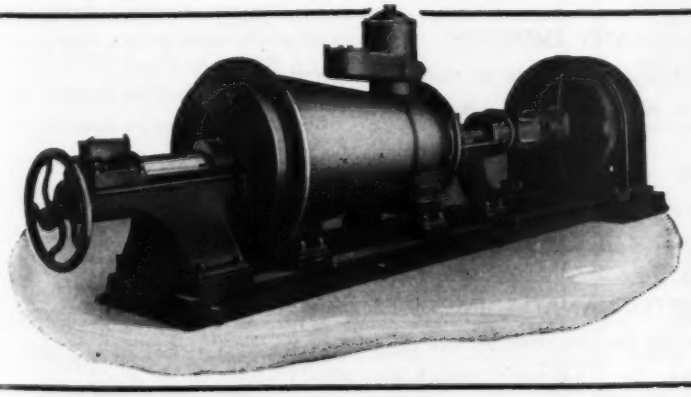

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Lawrence, Mass.

Imports of Paper and Paper Stock

(*Continued from page 72*)

E. J. Keller Co., Inc., by same, 272 bls. bagging.
Katzenstein & Keene, Inc., by same, 19 bls. rags.
Brown Bros. & Co., Boston City, Bristol, 385 bls. rags.
National City Bank, by same, 167 bls. rags.
J. Cohen Son & Co., by same, 25 bls. rags.
The Stone Bros. Co., Inc., Hellenus, Algiers, 392 bls. rags.
Mechanics & Metals National Bank, by same, 134 bls. rags.
National City Bank, Pr. Harding, Bremen, 523 bls. rags.
A. W. Fenton, Inc., by same, 184 bls. rags.
L. H. A. Benheimer, by same, 123 bls. rags.
Albion Trading Co., Olen, Bordeaux, 207 bls. rags.
National City Bank, Patria, Port Said, 193 bls. rags.
National City Bank, Patria, Alexandria, 50 bls. rags.
Katzenstein & Keene, Inc., Galtymore, Glasgow, 58 bls. bagging.
Katzenstein & Keene, Inc., Bremen, Bremen, 119 bls. rags.
W. Schall & Co., Zeeland, Antwerp, 189 bls. rags.
Anglo South American Trust Co., by same, 218 bls. flax waste.
Mechanics & Metals National Bank, by same, 175 bls. flax waste.
Mechanics & Metals National Bank, Ryndam, Rotterdam, 139 bls. bagging.
G. W. Millar, by same, 88 bls. rags.
National Bank of Commerce, by same, 19 bls. rags.
Darmstadt Scott Co., by same, 49 bls. bagging.
Darmstadt Scott Co., by same, 36 bls. tares.
E. J. Keller Co., Inc., by same, 332 bls. rags.
E. J. Keller Co., Inc., by same, 170 bls. bagging.
E. J. Keller Co., Inc., by same, 80 bls. linseys.
E. J. Keller Co., Inc., by same, 116 bls. shoperies.
A. W. Fenton, Inc., by same, 66 bls. rags.
G. M. Graves & Co., by same, 194 bls. rags.
E. Butterworth & Co., Inc., by same, 174 bls. bagging.
The Stone Bros. Co., Inc., Carlier, Antwerp, 147 bls. rags.
The Stone Bros. Co., Inc., by same, 76 bls. bagging.
Darmstadt Scott Co., Cubano, Buenos Aires, 43 Bls. rags.
Maurice O'Meara Co., by same, 81 bls. rags.

OLD ROPE

Brown Bros. & Co., N. Amsterdam, Rotterdam, 85 pgs.
International Purchasing Co., by same, 50 coils.
Brown Bros. & Co., Frederick VIII, Copenhagen, 75 coils.
Brown Bros. & Co., Boston City, Bristol, 187 coils.
Brown Bros. & Co., Zeeland, Antwerp, 112 bls.
Brown Bros. & Co., Ryndam, Rotterdam, 136 coils.
Brown Bros. & Co., by same, 13 bls.
The Stone Bros. Co., Inc., Hellenus, Algiers, 55 coils.

WOOD PULP

E. M. Sergeant & Co., Bergensfjord, Oslo, 750 bls. chemical pulp.
The Borregaard Co., Inc., by same, 75 bls. sulphite pulp.
Chemical National Bank, by same, 300 bls. sulphite pulp.
International Acceptance Bank, N. Amsterdam, Rotterdam, 140 bls. wood pulp.
Tidewater Papermills Co., Nordhavet, Gaspe, 12,128 bls. wood pulp.
Tidewater Papermills Co., Sigdal, Weymouth, N. S., 12,084 bls. wood pulp.
J. Anderson & Co., Norefjord, Greaker, 2,610 bls. sulphite pulp.
Central Union Trust Co., by same, 125 bls. sulphite pulp.
Chase National Bank, by same, 1,550 bls. sulphite pulp.
Merchants National Bank, by same, 750 bls. sulphite pulp.
Chase National Bank, President Wilson, Trieste, 1,470 bls. wood pulp.
Bulkley, Dunton & Co., Irma Kimme, Sundsvall, 1,250 bls. sulphate pulp, 254 tons.
Bulkley, Dunton & Co., by same, 1,250 bls. sulphite pulp, 254 tons.
Johanson, Wales & Sparre, Inc., by same, 750 bls. sulphite pulp, 152 tons.
Hartig Pulp Co., by same, 250 bls. sulphite pulp, 50 tons.
W. Hartman & Co., Inc., Ryufuku Maru, Hamburg, 366 bls. wood pulp, 56 tons.
Castle & Overton, Inc., by same, 550 bls. wood pulp.
E. M. Sergeant Co., Stockholm, Gothenburg, 606 bls. sulphite pulp.
E. M. Sergeant Co., by same, 150 bls. dry soda pulp.
Parsons & Whittemore, Inc., by same, 200 bls. sulphite pulp.
Price & Pierce, Ltd., by same, 125 bls. dry pulp.
Price & Pierce, Ltd., by same, 2,400 rolls wet pulp.
Guaranty Trust Co., Ferncliff, Drammen, 5,000 bls. mechanical pulp, 1,000 tons.
Guaranty Trust Co., Ferncliff, Laurvig, 9,690 bls. mechanical pulp, 1,938 tons.
Castle & Overton, Inc., by same, 500 bls. mechanical pulp, 100 tons.
Ira L. Beebe & Co., Inc., President Harding, Bremen, 1,225 bls. wood pulp, 245 tons.
M. Gotteman & Co., Inc., Topdalsfjord, Stockholm, 6,000 bls. wood pulp.
Pagel, Horton & Co., Inc., Fredensbro, Husum, 6,600 bls. sulphate pulp.
Pagel, Horton & Co., Inc., Fredensbro, Gefle, 1,500 bls. sulphite pulp.
Bulkley, Dunton & Co., Casper, Sundsvall, 500 bls. chemical pulp, 101 tons.
American Exchange National Bank, by same, 1,250 bls. chemical pulp, 254 tons.
Johanson, Wales & Sparre, Inc., by same, 725 bls. sulphite pulp, 149 tons.

WOOD PULP BOARDS

Wilkinson Bros. & Co., Inc., Stockholm, Gothenburg, 26 rolls.
Fibre Case & Novelty Co., by same, 21 bls.

CASEIN

Kalbfleisch Corp., American Legion, Buenos Aires, 834 bags, 50,040 kilos.
American Machine & Foundry Co., Olen, Bordeaux, 133 bags, 10,066 kilos.
Brown Bros. & Co., Cubano, Buenos Aires, 334 bags, 20040 kilos.

CHINA CLAY

C. T. Wilson & Co., Cedric, Liverpool, 25 casks.
C. T. Wilson & Co., Boston City, Bristol, 25 casks.
Mennen Co., Valacia, London, 60 casks.

ALBANY IMPORTS

WEEK ENDING JUNE 27, 1925

A. P. W. Paper Co., Facto Sheet Harbor, N. S., 11,149 bls. wood pulp, 1,134 tons.

NEW ORLEANS IMPORTS

WEEK ENDING JUNE 27, 1925

Castle & Overton, Inc., Mount Viso, France, 107 bls. rags.

TORONTO, CANADA, IMPORTS

WEEK ENDING JUNE 27, 1925

Kalbfleisch Corp., American Legion, Buenos Aires, 417 bags casein.

PORTLAND IMPORTS

WEEK ENDING JUNE 27, 1925

The Borregaard Co., Inc., Norefjord, Brevik, 504 bls. sulphate pulp.
Waterfalls Paper Mills, Norefjord, Greaker, 1,325 bls. sulphate pulp, 277 tons.

BOSTON IMPORTS

WEEK ENDING JUNE 27, 1925

G. F. Malcolm, Lancastria, Liverpool, 5 cs. tissue paper.
Norwegian Paper Mills, America, Oslo, 421 rolls news print.
International Acceptance Bank, West Harcuvar, Hamburg, 42 rolls wrapping paper.
F. A. Chase, Montana, Antwerp, 114 rolls paper.
French Worsted Co., by same, 17 cs. papertubes.
W. H. Sweath, Maine, London, 1 cs. wall paper.
Nashua Gummed & Coated Paper Co., Hjelmaren, Gothenburg, 159 bls. wrapping paper.
J. T. Slack Corp., Lancastria, Liverpool, 21 bls. rags.
J. T. Lodge, by same, 19 bls. rags.
A. Appleton, by same, 85 bls. paper stock.
E. J. Keller Co., Inc., Beemsterdyk, Rotterdam, 53 bls. rags.
Second National Bank, Montana, Antwerp, 97 bls. rags.
Lee, Higginson & Co., by same, 31 bls. rags.
Spoulding Fiber Co., by same, 464 bls. flax waste.
Katzenstein & Keene, Inc., West Campgaw, Germany, 148 bls. rags.
Katzenstein & Keene, Inc., Rexmore, Glasgow, 99 bls. rags.
Katzenstein & Keene, Inc., by same, 21 bls. new cuttings.
Katzenstein & Keene, Inc., Montana, Antwerp, 312 bls. rags.
J. T. Lodge Co., Maine, London, 2 bls. rags.
Brown Bros. & Co., by same, 179 bls. waste paper.
Merchants National Bank, by same, 19 bls. rags.
Baring Bros. & Co., Ltd., by same, 152 bls. waste paper.
Crocker Burbank Co., by same, 234 bls. waste paper.
Brown Bros. & Co., by same, 347 coils old rope.
Brown Bros. & Co., by same, 93 bls. old rope.
T. Butler, Digby, St. Johns, 46 coils old rope.
Brown Bros. & Co., Montana, Antwerp, 58 coils old rope.
Atterbury Bros., Inc., Cubano, Buenos Aires, 417 bags casein.
Nilsen, Lyon & Co., Inc., America, Oslo, 250 bls. chemical pulp.
Nilsen, Lyon & Co., Inc., America, Fredrikshald, 300 bls. sulphite.
Atterbury Bros., Inc., by same, 1,500 bls. sulphite.
The Borregaard Co., Inc., America, Greaker, 475 bls. sulphite.
J. Anderson & Co., by same, 7,062 bls. sulphite.
E. J. Keller Co., Inc., Beemsterdyk, Manheim, 118 bls. wood pulp.
Brown Bros. & Co., West Harcuvar, Hamburg, 225 bls. wood pulp.
Castle & Overton, Inc., by same, 560 bls. wood pulp.
Ira L. Beebe & Co., Inc., by same, 830 bls. wood pulp.
J. Anderson & Co., Irma Kimme, Soderhamn, 1,750 bls. sulphite, 335 tons.
Bulkley, Dunton & Co., by same, 1,750 bls. sulphite, 335 tons.
Bulkley, Dunton & Co., by same, 500 bls. sulphite, 101 tons.
Johanson, Wales & Sparre, Inc., Irma Kimme, Sundsvall, 500 bls. sulphite, 101 tons.
J. Anderson & Co., Irma Kimme, Hernosand, 4,350 bls. sulphite, 725 tons.
Bulkley, Dunton & Co., by same, 600 bls. sulphite, 100 tons.

(*Continued on page 76*)

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Imports of Paper and Paper Stock

(*Continued from page* 74)

M. Gottesman & Co., Inc., Casper, Stockholm, 625 bls. wood pulp, 126 tons.
M. Gottesman & Co., Inc., Westport, Stockholm, 2,500 bls. wood pulp.
M. Gottesman & Co., Inc., Trolleholm, Stockholm, 2,500 bls. wood pulp.
Pagel, Horton & Co., Inc., Fredensbro, Husum & Domsjo, 3,000 bls. sulphate pulp.
Pagel, Horton & Co., Inc., by same, 3,000 bls. sulphite pulp.
Pagel, Horton & Co., Inc., Fredensbro, Gefle, 1,000 bls. sulphite pulp.
Pagel, Horton & Co., Inc., by same, 2,500 bls. sulphite pulp.
Nilsen, Lyon & Co., Inc., Casper, Kotka, 600 bls. sulphate pulp.
Lagerloef Trading Co., by same, 610 bls. sulphite pulp.
Johanson, Wales & Sparre, Inc., Hjelmaren, Gothenburg, 36 bls. wood pulp.
Scandinavian Pulp Agency, Inc., by same, 1,778 bls. sulphite pulp.
Scandinavian Pulp Agency, Inc., by same, 5,080 bls. kraft pulp.
The Borregaard Co., Inc., by same, 2,750 bls. chemical pulp.
J. Anderson & Co., by same, 3,000 bls. sulphite pulp.

BALTIMORE IMPORTS

WEEK ENDING JUNE 27, 1925

E. J. Keller Co., Inc., Montpelier, Hamburg, 109 bls. rag pulp.
A. W. Fenton, Inc., Anacortes, Cardiff, 27 bls. bagging.
G. M. Graves & Co., Kerronkson, Glasgow, 357 bls. rags.
Ashuelot Paper Co., by same, 55 bls. paper stock.
Brown Bros. & Co., Bannack, Dublin, 65 bls. bagging.
National City Bank, West Inskip, Antwerp, 226 bls. rags.
British Bank of South America, Rexmore, Liverpool, 70 bls. bagging.
W. Schall & Co., Kerhonkson, Glasgow, 52 coils old rope.
Buck, Kaier & Co., Arkansas, Copenhagen, 1,200 bls. wood pulp.
Johanson, Wales & Sparre, Inc., by same, 875 bls. wood pulp.
Atterbury & McKelvey, Arkansas, Tofte, 300 bls. wood pulp.
Perkins, Goodwin & Co., Arkansas, Oslo, 1,050 bls. wood pulp.
Buck, Kaier & Co., Ryufuku Maru, Hamburg, 1,400 bls. sulphite, 213 tons.
W. Hartman & Co., Inc., by same, 1,619 bls. wood pulp, 249 tons.
Castle & Overton, Inc., by same, 820 bls. wood pulp, 164 tons.
M. Gottesman & Co., Inc., Hameln, Stockholm, 1,500 bls. wood pulp.
M. Gottesman & Co., Inc., Hornfels, Stockholm, 1,200 bls. wood pulp.
M. Gottesman & Co., Inc., Argosy, Stockholm, 5,400 bls. wood pulp.
M. Gottesman & Co., Inc., Nordhval, Stockholm, 3,875 bls. wood pulp.
M. Gottesman & Co., Inc., Progress, Stockholm, 1,000 bls. wood pulp.
Castle & Overton, Inc., Westerner, Rotterdam, 1,155 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING JUNE 27, 1925

Castle & Overton, Inc., Westerner, Rotterdam, 502 bls. wood pulp.
E. Butterworth & Co., Inc., Maine, London, 414 bls. bagging.
Johanson, Wales & Sparre, Inc., Natirar, Kramfors, 2,220 bls. kraft pulp, 390 bls. sulphite pulp.

PHILADELPHIA IMPORTS

WEEK ENDING JUNE 27, 1925

F. Weber & Co., Handican, Genoa, 17 cs. paper.
Ayres W. C. Jones Co., M. Merchant, Manchester, 116 bls. cotton waste.
Southwark National Bank, by same, 50 bls. cotton waste.
True & McClelland, by same, 71 bls. cotton waste.
McBlaine Co., by same, 37 bls. rag cuttings.
Darmstadt, Scott & Co., by same, 44 bls. rags.
I. L. Vandiver, by same, 191 bls. paper stock.
International Acceptance Bank, by same, 180 bls. bagging.
Mechanics & Metals National Bank, by same, 270 bls. rags.
The Stone Bros Co., Inc., West Harcuvar, Bremen, 77 bls. paper stock.
Katzenstein & Keene, Inc., Rexmore, Glasgow, 81 bls. rags.
International Acceptance Bank, by same, 46 bls. rags.
J. A. Steer & Co., by same, 59 bls. rags.
A. W. Fenton, Inc., by same, 71 bls. rags.
National City Bank, by same, Liverpool, 55 bls. rags.
Mechanics & Metals National Bank, by same, 104 bls. rags.
C. J. Webb & Son, Devonian, Liverpool, 30 bls. rags.
The Stone Bros. Co., Inc., London Mariner, London, 156 bls. rags.
New York Trust Co., by same, 107 bls. rags.
Philadelphia National Bank, by same, 221 bls. rags.
G. M. Graves Co., by same, 205 bls. rags.
Brown Bros. & Co., by same, 26 bls. rags.
Anglo South American Trust Co., by same, 266 bls. rags.
W. Schall & Co., by same, 22 bls. rags.
J. B. Moors & Co., by same, 228 bls. rags.
J. B. Moors & Co., Ryufuku Maru, Hamburg, 187 bls. rags.
E. J. Keller Co., Inc., by same, 107 bls. rags.
Brown Bros. & Co., by same, 139 bls. linseys.
National City Bank, by same, 106 bls. rags.
Philadelphia National Bank, by same, 56 bls. rags.
Castle & Overton, Inc., Corson, Leghorn, 409 bls. rags.
Philadelphia National Bank, by same, 75 bls. rags.
Philadelphia National Bank, Corson, Marseilles, 46 bls. rags.
The Stone Bros. Co., Inc., by same, 53 bls. rags.
J. Chalfin, by same, 96 bls. rags.
Anglo South American Trust Co., Corson, Naples, 40 bls. rags.
Katzenstein & Keene, Inc., Median, England, 127 bls. rags.
Katzenstein & Keene, Inc., Montpelier, Hamburg, 94 bls. rags.
Castle & Overton, Inc., Olen, Bordeaux, 214 bls. rags.
National City Bank, by same, 133 bls. rags.
Baltimore Trust Co., by same, 383 bls. rags.
E. J. Keller Co., Inc., by same, 86 bls. rags.
Salomon Bros. & Co., by same, 405 bls. rags.
Castle & Overton, Inc., Beemsterdyk, Rotterdam, 247 bls. rags.
E. J. Keller Co., Inc., Eastern Dawn, Rotterdam, 112 bls. rags.
J. L. Vandiver, Devonian, Liverpool, 32 coils old rope.
J. L. Vandiver, M. Merchant, Manchester, 54 coils old rope.
National City Bank, Liberty Glo, Buenos Aires, 584 bags casein.
Castle & Overton, Inc., Ryufuku Maru, Hamburg, 275 bls. wood pulp.
Castle & Overton, Inc., West Harcuvar, Hamburg, 840 bls. wood pulp.
Price & Pierce, Ltd., Casper, Sundsvall, 1,200 bls. sulphite, 203 tons.
Mechanics & Metals National Bank, by same, 1,800 bls. sulphite, 304 tons.
Scandinavian Pulp Agency, Inc., by same, 900 bls. sulphite, 182 tons.
Johanson, Wales & Sparre, Inc., by same, 900 bls. sulphite, 152 tons.
Price & Pierce, Ltd., Casper, Kotka, 2,430 bls. chemical pulp, 507 tons.
Bulkley, Dunton & Co., by same, 100 bls. chemical pulp, 20 tons.

Opposes Tariff Revision in Next Congress

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 29, 1925.—Tariff revision by the next Congress was opposed in a statement issued by Chairman Green, of the Ways and Means Committee.

"It ought to be remembered," he said, "that a general revision of the tariff in an off-year, between presidential elections, has always proved disastrous politically to the party that undertook it, with the result that it has lost the House at the next election.

"The present tariff has worked well, and has not unduly restricted our buying or selling, for our exports and imports are both more than twice the value of what they were before the war and in quantity they largely exceed the amount of that period. The revenue brought in by the present law is more than twice that produced by any other bill in normal times. Why not let well enough alone?"

Donald Cameron Goes with Dexter Paper Co.

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., June 30, 1925.—Donald Cameron has resigned his position as head of the cutter and calendar department of the Linden Division of the American Writing Paper Company to take a position with the Dexter Paper Company of Windsor Locks, Conn. Previous to going to the Linden mill Mr. Cameron was for 25 years boss finisher at the Gill Division.

Sabin Robbins Paper Co. to Expand

CINCINNATI, Ohio, June 29, 1925.—The Sabin-Robbins Paper Company, Middletown, Ohio, has purchased the 22 buildings and seven acres of land on Ludlow avenue, at the Baltimore & Ohio R. R., formerly occupied by the Clifton Springs Distillery.

The paper company will use 100,000 square feet of floor space and will lease the other 300,000 for light manufacturing.

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New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
Wednesday, July 1, 1925.

This would have been a week without incident in the paper market but for the announcement by the Belgo-Canadian Paper Company of a cut on the price of news print from $70 to $65 a ton to become effective January 1. That announcement provided a subject for unusual discussion due to the fact that it comes so far in advance. At this writing other companies do not seem disposed to follow suit and have decided to make no announcement at this time. Generally speaking the paper men look upon this announcement as premature and too far in advance for six months ahead is further than they desire to go in anticipating conditions. The market has for a long time been more or less erratic and there are few who have faith in themselves to the extent of predicting just what conditions will be on January 1. Almost anything seems within range of reason and for that reason they hesitate about declaring themselves to the extent that the Belgo-Canadian has done. It is said, moreover, that this early announcement of a new news print price for next year is not heralded with what can be called genuine pleasure by the publishers. It puts them in a sort of quandary. If they sign up now at the new rate they are gambling with the possibilities that conditions may be such that a still lower rate may be quoted later in the year. It makes them uncertain of conditions and leaves them faced by a situation which they do not know how best to cope with.

The paper business as a whole is getting genuinely sluggish and it will probably stay so until September. Demand is falling off everywhere, there is less interest as indicated by the fewer inquiries coming into the sales departments and prices are moving downward when they move at all. Business is slack enough so that the market is surfeited by a real greed for orders and yet price slashing is not yet becoming general and the indications are that concession granting will not be as common as it was last summer. Sales forces are more or less depleted for the vacation period and less strenuous sales efforts are being put forth for it is generally conceded that whatever business there is lying dormant will remain so until the consumers find themselves forced to place their orders.

There has been a very considerable falling off in the consumption of news print in the metropolitan area during the past two weeks. The newspapers are yielding to the off-season. Advertising is being cut down, news is running slow and a fewer number of pages suffice to make up the editions. While figures are not available there is every indication that circulations are slumping as they always slump during this period of the year. This does not mean, however, that news print is not doing well. It is consistent in its demand and is as dependable as a trusty time-piece. It is simply yielding to contra-circumstance and responding to that let-up which is inevitable and probably always will be.

Fine papers are keeping up fairly well considering the times but coarse papers have slumped considerably. Box board demand has fallen off considerably and wrapping papers are quieting down. Tissues are very slow and not much action is looked for them until the fall brings the forerunner of the holiday trade.

Mechanical Pulp

There is less buying of ground wood now than there has been in some time but so far prices are holding up. The grinders are keeping fairly busy on contract business but the spot buying is very conspicuous by its absence. The summer droughts are still holding off and the grinders are enjoing unusually good working conditions so far. But the dry spell is almost a certainty and supplies are being accumulated with a view to meeting it when it comes.

Chemical Pulp

Chemical pulp is slowing up. The consumers seem to be pretty well provided for and the business that is straggling in is mostly to take care of emergency needs. Prices are holding firm, however.

Old Rope and Bagging

The domestic qualities are receiving the call in the old rope market but otherwise the market is very quiet. There has been an occasional drop in prices. Bagging, which has been doing well, has suffered a partial suspension of activities. Competition is very keen in both old rope and bagging and it is said that concessions are easy to obtain when the consumer shows he has any really worth while business to place.

Rags

The rag market has entered upon dull days. The mills are doing little buying and what little demand there is seems to be confined to the domestic grades. Prices have not changed a great deal but the tendency is downward.

Waste Paper

Waste paper is in much the same condition as rags. There seems to be only a nominal demand adn no great impetus is looked for in the market for the next month at least. Fall business, it is predicted, will set in a little earlier than usual this year. Prices are still holding up although concessions are said to be becoming the order of the day.

Twine

The twine story is a sad one. The market is rapidly getting as flat as it was last summer and that does not please the twine men in view of the fact that at no time during the year have they seen business occupying the top shelf.

Strathmore Paper Co. Presents Safety Flag

[FROM OUR REGULAR CORRESPONDENT.]

WORONOCO, Mass., June 30, 1925.—The workers in the No. 2 mill of the Strathmore Paper Company were the winners in the recent safety race showing the least amount of accidents for the term designated. Saturday a dinner was given to the contest winners by H. A. Moses, president of the company and a program of sporting events arranged by C. E. Higgins was run off. Chief Engineer Williamson of the company presented the superintendent of the mill with a large championship flag in a fitting address.

75 JENSSEN

Two-Tower Acid Systems now in operation or building.

Jenssen Spray Type Cooler
Bullard Gas Washer
Decker Cooking Process
Kamyr Feltless Machines
Kamyr Pulp Presses

G. D. Jenssen Company
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Manufacturers of

Newsprint and Hanging

Mills at
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STANDARD and MULTIPLE PLY

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In Two, Three, Four, Five and Six Ply, 60 inches to 176 inches in width.

BY ACTUAL TEST this felt will dry 33 per cent more paper, with ABSOLUTELY NO FELT MARKS IN THE PAPER.

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THREE PLY FELT for other paper

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FITCHBURG · MASSACHUSETTS

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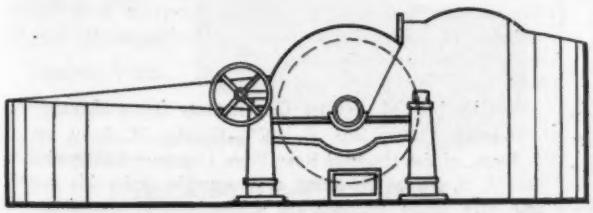

We easily double the output of your beaters at lowest cost.

BEATER ROOMS

NEW OR OLD
MORE STOCK AT LESS POWER
BETTER PAPER AT LOWER COST
LARGER PROFITS WHEN WATER IS LOW

Leo Shlick *Paper Mill Specialists* 314 Beacon St. Boston, Mass.

Buildings, Improvements, Paper Machines rebuilt, New Grades of Paper Made, Power Plants, complete mills, old mills re-designed for larger profits.

Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
Wednesday, July 1, 1925.

The chemical market has struck its summer pace and there is little chance of any material upward look until this fall when the time comes for the renewals of contracts and when business naturally assumes a little more vitality after its summer rest. Prices are not changing and, in fact, every condition militates against change. Consumers have already disclosed their unwillingness to buy any more liberally than is necessary to cover their most urgent needs and there is not enough business in sight to encourage a reduction in price. Quotations are now about as low as they can successfully be brought and with such a limited disposition to buy there can be no incentive to make a lower price except in cases where the manufacturers have a heavier supply of stock than they care to carry and which they consider it good business to move even at a shaded figure. The chemical business for June has been drifting into the hot-weather Slough of Despond and July 1 finds it slowing down although business cannot be said to be as flat as it was on July 1, 1924. The month of June has been considerably better from a business standpoint than was the month of June last year in spite of the fact that really hot weather set in much earlier this year and the summer period got under way at an earlier date. This is considered highly encouraging and is taken as an indication that the chemicals will keep on right through the hot spell doing somewhat better than they did last year. If they do that the year's business will be considerably better than the business in 1924 unless there should be an unlooked for collapse in the fall and a bad finish for the year.

BLANC FIXE.—Blanc fixe is getting more and more into an indifferent state. There are many inquiries regarding it, it is true, but these are all feelers and when the replies come in and no concessions are offered nothing further is heard. This shows that the consumers, most of whom are carrying meager supplies might be conjoled into buying by the offer of inviting concessions but that as long as prices hold where they are they propose to continue with as little buying as possible. The price of from $60 to $70 for the pulp and from $75 to $90 a ton for the powder is still being quoted.

BLEACHING POWDER.—Early summer placed its grasp on bleach with the result that the demand has been falling off. There is practically no spot buying. Stock is moving fairly well on the contract basis and while there are reports of occasional concessions being given there is not a sufficient quantity of stock in the market to encourage any general slashing of prices. The quotation is still 1.90 cents a pound.

CAUSTIC SODA.—There is not a great deal of caustic soda on the market at this time and contract business is keeping it mowed down to a satisfactory level. The price quoted has not changed although it was said the past week that one of the leading manufacturers had quoted a slightly lower figure than rules in the market. From 3.10 to 3.15 cents a pound is being asked.

CASEIN.—Casein demand has had a very considerable falling off although it is still doing fairly well considering the period of the year and general conditions. Some concessions are being given but the ruling price is 12½ cents a pound.

CHINA CLAY.—While China clay is still doing reasonably well the demand today is a wide contrast to the demand which followed a phenomenal course for many weeks. Consumers are not in a buying mood and are cutting their orders down to the bone. They will buy as little as possible until fall brings a little impetus. The imported grades are quoted at from $16 to $20 a ton and the domestic grades at from $12 to $15 a ton.

CHLORINE.—Chlorine is gradually slowing up although the demand is considerably better than it was at this period of the year in 1924. The price is holding at from $4.50 to $7.00 a pound in tanks.

ROSIN.—Rosin is beginning to lag more and more. The price is fluctuating from day to day but the naval stores centers are now quoting from $6.60 to $6.80.

SALT CAKE.—Salt cake is moving along in a satisfactory condition although the demand has been slumping off, contract buying being all that salt cake has to sustain it. The price remains at from $16 to $17 a ton.

SODA ASH.—These are dull days for soda ash. The contract movement is fairly well maintained but there is no spot buying to speak of. The present quotation is 1.38 cents a pound on a flat basis at the works.

SULPHATE OF ALUMINA.—Sulphate of alumina is another commodity which continues well on contract basis but outside of that there is no call for it. This is a slow period for it but it is doing better at this particular time than it was doing a year ago this time. The commercial grades are bringing from 1.40 to 1.45 cents a pound at the Eastern works and the iron free is quoted at from 2.10 to 2.25 cents a pound.

TALC.—Talc is in an unusually slow state and bids fair to fall into the same degree of dullness that it experienced last summer. There has been no change in price which holds at from $17 to $18 a ton.

New Deep Well Power Heads

The American Well Works of Aurora, Illinois, have perfected a new line of deep well power heads, which are totally enclosed. The entire main frame totally surrounds all gears, which makes for safety and great rigidity and compactness of the head. All of the main bearings and gears run in a bath of oil, which makes the operation of the head practically noiseless. All gears and pinions are machine cut and the pinions and pinion shafts are cut from a solid piece of machinery steel. The crank itself is of solid one piece construction.

These heads are made for both six and twelve inch strokes for operation with single stroke cylinders. They are furnished for either electric motor or with tight and loose pulleys for gasoline engine drive, and are adaptable for use with tanks, and may be furnished complete with tanks and automatic starting and stopping devices. Frost proof attachments are furnished for outdoor installations.

Bulletin 180 on these single stroke totally enclosed power heads has recently been published by the American Well Works, and includes all engineering data as to capacity, speeds, and lists, dimensions and foundation plans.

Charles M. Ryan Graduates from Annapolis

HOPEWELL, Va., June 17, 1925.—Charles M. Ryan, son of Mr. J. Ryan, of the Hummel-Ross Fibre Company was graduated from the U. S. Naval Academy at Annapolis early this month. Mr. and Mrs. Ryan attended the commencement exercises. Charles will make the cruise to Australia on the U. S. S. Richmond.

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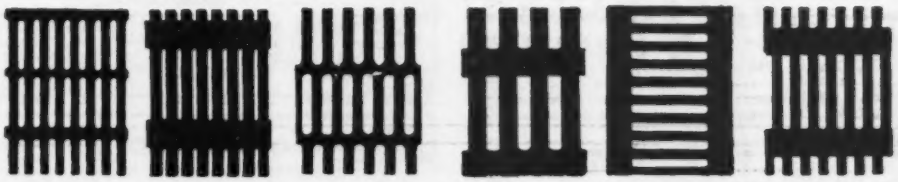
All sizes and shapes of Holes



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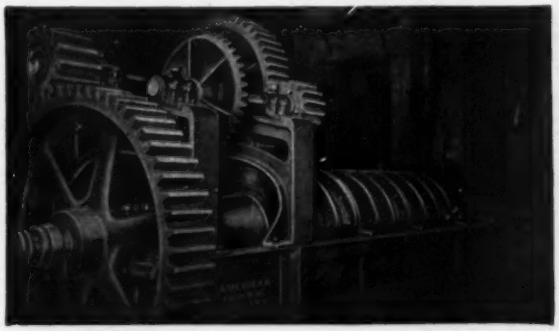

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FOR DEWATERING PULP

ADVANTAGES

1. AUTOMATIC—requiring a minimum of labor to operate.
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3. ECONOMICAL IN POWER—small power required to operate.
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300 tons daily

AMERICAN MADE FOR AMERICAN TRADE

Over forty years' experience in the clay industry has naturally resulted in the adoption of the most scientific methods and practices.

This record of achievement is your guaranty of *Clay* of absolute uniformity at prices consistent with M-E quality and service.

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Blow Pits
Acid Storage
Tanks, Vats,
Etc.

Send us your specifications for prompt shipment.

Kalamazoo Tank & Silo Co.

Kalamazoo, Michigan

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Camden CLEAN SHEAR CUT CUT New Jersey, U.S.A

Paper Slitters and Rewinders or Winders Paper Tube and Paper Can Machinery Corrugated Paper Machinery.

Complete bulletins covering each line of equipment yours for the asking.

Market Quotations

Quoted by Hepburn & Co., No. 74 Broadway, N. Y. City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	OFFERED
Abitibi Power and Paper, Gen. 6s 1940	100	102*
Advance Bag and Paper, 7s 1943	98	100*
Bastrop Pulp and Paper, 7½s 1932	104	108*
Brompton Pulp and Paper, 6s 1927	93	95
Beaver Board, 8s 1933	92	94
Bedford Pulp and Paper, 6½s 1942	98	...
Berkshire Hills Paper Co., 8s 1941	...	80
Beaver Board, N. Y. Curb, 8s 1933	92	95
Beaver Products Corp., 7½s 1942	104	106
Belgo Canadian Paper, 6s 1943	100	101
Brown Paper Co., 8s 1931	102	...
Berlin Mills, 5s 1931	98	...
Bryant Paper Co., 6s 1942	98	101
Brown Company Serial, 6s 1925-43	97	100
Central Paper, 6½s 1925-42	91	94
Cape Breton Pulp and Paper, 6s 1932	100	...
Carthage Sulphite Pulp and Paper, 8s 1941	40	50
Champion Coated Paper Co., 6s 1924-34	...	102
Champion Fibre Co. Notes, 8s 1930	101	...
Cherry River Paper, 5s 1929	97	100*
Donnaconna Paper Co., Ltd., 6s 1940	99	101
Eddy Paper, 7s 1931	97	...
Eagle Paper, 6½s 1932	96	100
Escanaba Paper, 6s 1933	87	95*
Fox River Paper, 7s 1931	100	...
Fort Orange Paper Co, 7s 1942	95	99
Eddy Paper Co., 7½s 1931	95	...
Gilbert Paper Co., 7s 1927	96	...
Gilbert Paper Co., 6½s 1923-29	101	102*
Hammermill Paper Co., 6s 1930-39	99	...
Hercule Corp'n, 8s 1936	99	102
Hummell, Ross Fibre Corp., 7s 1925	90	...
Jessup & Moore Paper Co., 6s 1939	90	97
Kenmore Pulp and Paper Co., 6s 1937	89	...
Lake Superior Pulp and Paper, 6s 1941	105	...
Mattagami Pulp and Paper, 6s 1937	90	...
Marinette & Menominee, 7½s 1936	104	...
National Paper and Type, 6s 1947	96	99*
Oswego Falls Corp., 8s 1942	102	105
Orono Pulp and Paper, 5s 1941	93	96*
Orono Pulp and Paper, 6s 1943	97	100*
Oxford Paper Co., 6s 1947	101	...
Paterson Parchment Paper, 5½s 1927-28	98	100
Paterson Parchment, 6s 1938	98	100
Parker, Young Co., 6½s 1944	92	96
Price Bros. & Co., Ltd., 6s 1943	100	102
Provincial Paper Mills, Ltd., 6s 1940	97	...
Riordon Co., Series A, 8s 1940	115	118
Riordan Paper, 6s 1924	91	94
Riordan Pulp and Paper, Ltd., 6s, 1929	33	35
River Raisin Paper, 8s 1936	104	106
St. Maurice Paper Co., Ltd., 5½s, 1929	98½	99¼
St. Regis Paper, 6½s, 1929-35	97	102
Smith (Howard) Paper Mills, 7s 1941	98	100
Smith (Howard) Paper Mills, 6s 1934	96	...
St. Croix Paper, 5s 1923-37	95	...
Stevens & Thomson Paper, 6s 1942	88	92
Spanish River Pulp and Paper, 6s 1931	105	108
Spanish River Pulp and Paper, Gen 8s 1941	106	109
Ticonderoga Pulp and Paper Co., 6s, 1940	91	95
Ticonderoga Pulp & Paper 1-5, 1930	88	93
S. D. Warren Company, 6s, 1945	97	100
Whittaker Paper, 1st 7s 1942	96	...
Watab Paper Co., 6½s 1942	101	...
Waterway Paper Products, 7s 1924-27	95	100
Wayagamack Pulp and Paper, Ltd., 6s 1951	87	90

STOCKS	BID	ASKED
Abitibi Power and Paper, Com	71	72
Abitibi Power and Paper, Pfd	108	...
Advance Bag and Paper, Com	8	12*
Advance Bag and Paper, Pfd	77	...
Beaver Board, Com	4	6
Beaver Board, Pfd	30	35
Bryant Paper, Cap	12	...
Bryant Paper, Pfd	9	...
Brompton Pulp and Paper, Cap	21	25
Chicago Mill & Lumber Co., Com	63	...
Chicago Mill & Lumber Co., Pfd	98	104
Crown Williamette, Com	93	98*
Crown Williamette, 7% A, Pfd	98	SW
Donnaconna Paper, Pfd	95	100
Great Northern Paper, Cap	255	265
Jessup & Moore Paper, pfd	73	77
International Paper Co., Com	67	68
International Paper Co., Pfd	78	80
Mengel Company, Com	54	56
Mengel Company, Pfd	83	93
Oxford Papers, Com	93	97
Oxford Paper Co., Pfd	98	...
Provincial Paper Co., Com	94	98
Provincial Paper Co., Pfd	99	...
Price Brothers, Cap	39	40
St. Croix Paper	185	215
St. Maurice Paper Co., Cap	83	87
St. Regis Paper Co., Cap	54	56
Spanish River Pulp and Paper, Com	104	105
Spanish River Pulp and Paper, Pfd	115	117
Ticonderoga Pulp and Paper, Cap	145	...
West Virginia Pulp and Paper. Cap	44	47
West Virginia Pulp and Paper, Pfd	85	100
Whittaker Paper, Com	53	...
Whittaker Paper, Pfd	15	...

* Nominal.

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub Sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.50	@ 3.90
Rolls, transit	3.75	@ 4.25
Sheets	4.00	@ 4.25
Side Runs	3.25	@ 4.00
Book, Cased—		
S. & S. C.	7.00	@ 9.75
M. F.	6.25	@ 8.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream		
White No. 1	.70	@ .90
Colored	1.00	@ 2.00
White No. 2	.65	@ .75
Anti-Tarnish	1.25	@ 2.35
Kraft	.85	@ .95
Manila	.70	@ .80
Kraft—		
No. 1 Domestic	5.50	@ 6.25
No. 2 Domestic	4.25	@ 4.50
Imported	5.50	@ 5.75
Manila—		
No. 1 Jute	9.25	@ 9.50
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.50	@ 4.00
Fibre Papers—		
No. 1 Fibre	4.50	@ 5.00
No. 2 Fibre	4.25	@ 4.75
Common Bogus	2.50	@ 2.75
S. Screening	3.00	@ 3.50
Card Middler	4.00	@ 5.00
Boards—per ton—		
News	45.00	@47.50
Straw	57.00	@60.00
Chip	42.00	@45.00
Binders' Boards	72.50	@77.50
Sgl. Mla. Ll. Chip	60.00	@62.50
Wood Pulp	70.00	@75.00
Container	62.50	@67.50
Sulphate Screenings—		
Coarse	.80	@ .90
Refined	1.75	@ 2.00
Ground Wood—		
Screenings	20.00	@25.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported	33.00	@37.00
(F. o. b. Mill)		
No. 1 Domestic	28.00	@32.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	4.00	@ 4.50
Easy Bleaching	2.90	@ 3.25
No. 1 strong unbleached	2.75	@ 3.25
No. 2 strong unbleached	2.45	@ 2.80
No. 1 Kraft	2.95	@ 3.20
Sulphate—		
Bleached	3.75	@ 3.95
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	3.75	@ 4.50
Easy Bleaching Sulphite	2.90	@ 3.25
News Sulphite	2.55	@ 2.80
Mitscherlich	3.25	@ 3.75
Kraft (Domestic)	2.75	@ 3.25
Soda Bleached	4.00	@ 4.25

Domestic Rags

New Rags

Prices to Mill, f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	14.50	@15.25
New White, No. 2	8.00	@10.00
Silesias No. 1	10.50	@11.50
New Unbleached	14.00	@15.00
Washables	6.50	@ 9.25
Fancy	9.75	@10.25
Blue Overall	10.25	@11.25
New Blue Prints	7.50	@ 8.50
New Soft Blacks	5.75	@ 6.20
Mixed Khaki Cuttings	5.75	@ 6.25
Pink Corset Cuttings	10.50	@11.00
Pink Muslin	10.25	@10.75
New Light Seconds	3.25	@ 3.50
O. D. Khaki Cuttings	6.25	@ 7.25
Men's Corduroy	6.25	@ 6.75
New Mixed Blacks	4.00	@ 4.50
Old Rags		
White, No. 1—		
Repacked	6.50	@ 7.50
Miscellaneous	6.50	@ 7.00
White, No. 2—		
Repacked	4.50	@ 5.00
Miscellaneous	4.00	@ 4.50
St. Soiled, White	3.00	@ 3.50
Thirds and Blues—		
Repacked	4.00	@ 4.25
Miscellaneous	3.25	@ 3.50
Black Stockings	4.00	@ 4.50
Roofing Rags—		
Cloth Strippings	2.40	@ 2.50
No. 1	2.40	@ 2.50
No. 2	2.30	@ 2.40
No. 3	2.00	@ 2.25
No. 4	2.20	@ 2.30
No. 5A	1.80	@ 1.50

Foreign Rags

New Light Silesias	9.50	@10.50
Light Flannelettes	11.00	@12.00
Unbl'ched Cottons	14.00	@15.00
New White Cuttings	14.00	@15.00
New Light Oxfords	10.00	@11.00
New Light Prints	9.00	@10.00
New Mixed Cuttings	4.25	@ 4.75
New Dark Cuttings	4.00	@ 4.25
No. 1 White Linens	10.25	@11.25
No. 2 White Linens	7.25	@ 8.25
No. 3 White Linens	6.25	@ 6.75
No. 4 White Linens	4.50	@ 5.50
Old Extra Light Prints	4.25	@ 4.75
Ord. Light Prints	3.75	@ 4.25
Med. Light Prints	3.75	@ 4.25
Dutch Blue Cottons	4.00	@ 4.50
Ger. Blue Cottons	4.00	@ 4.25
Ger. Blue Linens	4.25	@ 4.75
Checks and Blues	3.50	@ 3.75
Linsay Garments	2.45	@ 2.50
Dark Cottons	2.35	@ 2.45
Shoppery	2.30	@ 2.40
French Blues	4.00	@ 4.50

Bagging

Prices to Mill F. o. b. N. Y.

Gunny No. 1—		
Foreign	3.10	@ 3.25
Domestic	3.15	@ 3.25
Wool Tares, light	2.50	@ 2.60
Wool, Tares, heavy	2.60	@ 2.70
Bright, Bagging	2.55	@ 2.65
Mixed Bagging	2.30	@ 2.40
Sound Bagging	2.10	@ 2.20
Roofing Bagging	1.85	@ 2.00
Manila Rope—		
Foreign	6.25	@ 6.75
Domestic	6.75	@ 7.25
New Bu. Cut	3.60	@ 3.85
Hessian Jute Threads—		
Foreign	4.00	@ 4.25
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.40	@ 3.60
Hard, White, No. 2	3.15	@ 3.40
Soft, White, No. 1	2.70	@ 2.80
Flat Stock—		
Stitchless	1.45	@ 1.55
Overissue Mag	1.25	@ 1.40
Solid Flat Book	1.40	@ 1.50
Crumpled No. 1	1.25	@ 1.35
Solid Book Ledger	1.80	@ 1.90
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.65	@ .75
Manilas—		
New Env. Cut	2.25	@ 2.40
New Cut. No. 1	1.75	@ 2.00
Extra No. 1 old	1.40	@ 1.50
Print	1.20	@ 1.30
Container Board	.70	@ .90
Bogus Wrapper	1.00	@ 1.10
Old Krafts Machine compressed bales	2.00	@ 2.10
News—		
No. 1 White News	1.85	@ 2.00
Strictly Overissue	1.05	@ 1.15
Strictly Folded	.75	@ .85
No. 1 Mixed Paper	.55	@ .65
Common Paper	.35	@ .45

Twines

Cotton—(F. o. b. Mill)—		
No. 1	.42	@ .45
No. 2	.41	@ .43
No. 3	.40	@ .43
India, No. 6 basis—		
Light	.19	@ .20
Dark	.17	@ .19
B. C., 18 basis	.39	@ .41
A. B. Italian, 18 Basis	.56	@ .61

Established 1895
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Domestic and Foreign
WASTE PAPER OLD RAGS WOOD PULP
NEW CUTTINGS MANILA ROPE BAGGING
HEMP ROPE FLAX WASTE COTTON WASTE
77 SUMMER STREET BOSTON, MASS.

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Consulting Engineer
GREEN BAY, WISCONSIN
ELIMINATION OF WASTE
REPORTS AND VALUATIONS
OPERATING PROBLEMS
REDUCTION OF COSTS
DESIGN AND CONSTRUCTION
PLANT IMPROVEMENTS
"An Engineering Service Based Upon Actual Operating Experience"

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VAPOR ABSORPTION SYSTEMS

DRAINER BOTTOMS & PERFORATED TILES
For Paper Mills and Filtering Purposes
Lasts indefinitely
No Wood, Splinters or Dust—Drains Quickly and Clean
SAMUEL SNELL COMPANY
Manufacturers Holyoke, Mass.

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501 Fifth Avenue New York City
Board Mill Production Service
Standardized Furnishes and Costs
Production Quality Economy Problems
A New Service based on twenty-five years' Practical Experience

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H. WATERBURY & SONS CO.
ORISKANY, N. Y.

WOOD FLOUR
Various degrees of fineness and either fibrous or granular
Made from first growth Spruce and Pine, by approved processes.
UNION WOOD FLOUR CO., INC.
Hudson Falls, N. Y.

GEORGE F. DREW
MILL ARCHITECT AND ENGINEER
Consulting and Operating
Brunswick, Me. 6 Cambridge St., Cambridge, Mass.
SPECIALTY: Pulp, Paper and Saw Mills
Cotton, woolen, worsted, cordage, silk mills, and their equipment.
Appraisals, adjustments.

GENERAL Aluminum Sulphate CHEMICAL
GENERAL CHEMICAL COMPANY 40 RECTOR STREET, NEW YORK

COMBUSTION ENGINEERING CORPORATION
PULVERIZED FUEL
45 BROAD STREET, NEW YORK

Finished Jute—			
Dark, 18 basis...	.30	@	.31
Light, 18 basis...	.28	@	.30
Jute Wrapping, 3-6 Ply—			
No. 1	.18	@	.20
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger.	.15	@	.17
Fine Tube Yarn—			
5-ply and larger.	.20	@	.28
4-ply	.21	@	.24
3-ply	.22	@	.25
Unfinished India—			
Basis	.14	@	.15
Paper Makers' Twine			
Balls	.12	@	.13
Box Twine, 2-3 ply	.14	@	.15
Jute Rope	.20	@	.40
Amer. Hemp, 6....	.30	@	.32
Sisal Hay Rope—			
No. 1 Basis.....	.14	@	.16
No. 2 Basis.....	.10	@	.12
Sisal Lath Yarn—			
No. 1	.14	@	.15
No. 2	.11	@	.13
Manila Rope	.18	@	.19

CHICAGO

Paper

F. o. b. Mill

All Rag Bond.....	35	@	40
No. 1. Rag Bon..	25	@	35
No. 2 Rag Bond..	14	@	25
Water Marked Sul-			
Phite	9	@	12
Sulphite Bond.....	7	@	10¼
Sulphite Ledger ...	9	@	12
Superfine Writing..	18	@	24
No. 1 Fine Writing	14	@	18
No. 2 Fine Writing	12	@	14
No. 3 Fine Writing	9	@	12
No. 1 M. F. Book..	5½	@	7½
No. 1 S. & S. C.			
Book	6	@	7¼
Coated Book	8	@	10
Coated Label	8	@	10
News—Roll, mill...	3½	@	4¼
News—Sheets, mill.	3¾	@	4½
No. 1 Manila.....	4½	@	5½
No. 1 Fibre.....	4½	@	5¼
No. 2 Manila.....	3¼	@	4¼
Butchers' Manila...	4	@	4½
No. 1 Kraft.....	5¾	@	6¼
No. 2 Kraft.....	4.50	@	5.00
Wood Tag Boards..	4	@	6
Sulphite Screenings.	3.00	@	3.25
Manila Tissue, 24x36			
sheet	7½	@	8
White Tissue, 20x30			
sheet	7	@	7¼

Boards, per ton—
(Delivered Central Territory)

Plain Chip 45.00		@	47.50
Solid News 47.50		@	50.00
Manila Line Chip.57.50		@	60.00

Container Lined—
(Delivered Central Territory)

85 Test	—	@	75.00
100 Test	—	@	80.00

Old Papers

F. o. b. Chicago

Shavings—			
No. 1 Hard White	3.15	@	3.25
White Envel. Cut-			
tings.....	3.15	@	3.25
No. 1 Soft Shav.	2.65	@	2.75
No. 1 Mixed.....	1.45	@	1.50
No. 2 Mixed.....	1.15	@	1.20
Ledger and Writings	1.50	@	1.55
Solid Books	1.40	@	1.45
No. 1 Light Books.	1.00	@	1.05
Blanks	1.90	@	1.95
Kraft	2.05	@	2.10
New Kraft Cuts.	2.30	@	2.35
Manila Envelope			
Cuttings.....	2.40	@	2.50
Ex. No. 1 Manila..	2.00	@	2.10
Print Manila	.90	@	.95
Folded News (over-			
issue)	.85	@	.90
Old Newspapers—			
No. 1	.70	@	.75
No. 2	.60	@	.65
Mixed Papers—			
No. 1	.55	@	.60
No. 2.....	.50	@	.55
Straw Clippings....	.75	@	.80
Binders' Clippings..	.70	@	.65

Roofing Stock, f. o. b. Chicago, Net Cash—

No. 1.....	47.00	@50.00..
No. 2.....	45.00	@50.00
No. 3.....	43.00	@48.00
No. 4.....	41.00	@48.00

BOSTON

Paper

Ledgers—			
Sulphite	.08½	@	.18
Rag content	.18	@	.36½
All Rag	.38	@	.50
Bonds—			
Sulphite	.08½	@	.12
Rag Content.....	.17	@	.45
All Rag	.36½	@	.51
Writings	.08	@	.20
Superfines	.22	@	.50
News	.04	@	.04½
Book, Super	.08	@	.10
Book, Coated	.09	@	.14
Coated Litho.....	.09½	@	.15
Label	.09½	@	.15
Jute Manila No. 1.	.11	@	.12
Manila, Sul. No. 1.	.05	@	.05
Manila, Sul. No. 2.	.03¾	@	.04¼
No. 1 Kraft	.06½	@	.06½
No. 2 Kraft	.05¾	@	.05½
Common Bogus	.03½	@	.04
Straw Board	—	@	50.00
News Board	—	@	45.00
Chip Board	—	@	42.50
Single Manila Pulp			
lined board.....55.00		@	60.00
Single White, patent			
coated board.....75.00		@	82.50
Wood Pulp Board..80.00		@	85.00
Binder Boards 75.00		@	85.00
Tarred Felts—			
Regular 61.00		@	63.00
Slaters 66.00		@	68.00
Best Tarred, 1 Ply,			
roll 1.50		@	1.60
Best Tarred, 2 Ply,			
roll 1.70		@	1.80
Best Tarred, 3 Ply,			
roll 2.00		@	2.10

Old Papers

Shavings—			
No. 1 Hard White	4.00	@	3.75
White Blank News.	1.75	@	2.00
Manila Env. Cut-			
tings.....	2.80	@	3.00
No. 2 Hard White	3.25	@	3.50
No. 1 Soft White..	.04½	@	—
No 2 Soft White..	.03¾	@	—
No. 1 Mixed.....	1.60	@	1.75
No. 2 Mixed.....	1.25	@	1.50
Solid Ledger Stock.	2.00	@	1.75
Writing Paper	—	@	1.50
No. 1 Books, Heavy	1.75	@	1.50
No. 1 Books, Light	—	@	1.25
No. 1 New Manila.	2.50	@	2.60
No. 1 Old Manila.	1.75	@	2.00
Print Manila	1.05	@	1.20
Old Kraft	2.00	@	2.25
Overissue News....	1.00	@	6.54
Old Newspapers....	.70	@	5.54
No. 1 Mixed Paper	.60	@	.47½
Box Board, Chip..	.60	@	.50

Bagging

Price f. o. b. Boston

Gunny No. 1—			
Foreign	—	@	3.00
Domestic	—	@	3.25
Manila Rope.....	6.00	@	6.50
Mixed Rope.....	1.50	@	2.25
Scrap burlaps....	—	@	2.25
Wool Tares, heavy.	—	@	3.00
Mixed Strings...	—	@	2.25
New Burlap Cuttings	—	@	3.75

Domestic Rags (New)

Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.15½	@	.15
Silesias, No. 1..	.11	@	—
New Unbleached.	.14¼	@	.15
Washable	.07¼	@	.08
Fancy	.10½	@	—
Cottons—According to			
Grades—Blue—			
Blue overalls....	.12½	@	—
New Black, soft...	.07	@	—
Khaki Cuttings....	.07	@	—
Corduroy	.04	@	.05
New Canvas.....	.12	@	.13½

Domestic Rags (Old)

Price f. o. b. Boston

White No. 1.....10.00		@	—
Repacked	9.50	@	—
Miscellaneous	8.50	@	—
White No. 2—			
Repacked	6.50	@	—
Miscellaneous ...	5.25	@	—
Thirds and Blues—			
Repacked	5.00	@	—
Miscellaneous ...	3.50	@	—
Roofing Stock—			
No. 1.....	3.00	@	—
No. 2.....	3.00	@	—
No. 3.....	2.50	@	—
No. 4.....	2.00	@	—

PHILADELPHIA

Paper

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2.....	.16	@	.25
Fine, No. 3.....	.12	@	.20
Book, M. F.....	.06	@	.07
Book, S. S. & C..	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph..	.09	@	.12
Label	.09	@	.12
News	.03¼	@	.04
No. 1 Jute Manila.	.09½	@	
Manila Sul., No. 1.	.04½	@	.06
Manila No. 2.....	.04	@	.04½
No. 2 Kraft.....	.05	@	.05¾
No. 1 Kraft.....	.06¼	@	
Common Bogus.....	.02¾	@	—
Straw Board.....56.00		@	55.00
News Board 42.50		@	—
Chip Board 42.50		@	—
Wood Pulp Board.. 4.50		@	5.00
(Carload Lots)			
Binder Boards—			
Per ton 75.00		@	80.00
Carload lots 65.00		@	70.00
Tarred Felts—			
Regular 61.00		@	63.00
Slaters 66.00		@	68.00
Best Tarred, 1-ply			
(per roll) 1.70		@	1.80
Best Tarred, 2-ply			
(per roll) 1.50		@	1.60
Best Tarred, 3-ply. 2.00		@	2.10

Bagging

F. o. b. Phila.

Gunny, No. 1—			
Foreign	3.00	@	3.25
Domestic	3.00	@	3.25
Manila Rope....	4.75	@	6.00
Sisal Rope	2.50	@	—
Mixed Rope	1.00	@	1.25
Scrap Burlaps....	2.25	@	2.50
Wool Tares, heavy.	2.00	@	2.13
Mixed Strings...	1.25	@	—
No. 1, New Lt. Bur-			
lap	3.50	@	3.75
New Burlap Cut-			
tings	3.75	@	—

Old Papers

F. o. b. Phila.

Shavings—			
No. 1 Hard			
White	3.50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.50	@	2.60
No. 2 Soft White	1.75	@	—
No. 1 Mixed....	1.00	@	1.10
No. 2 Mixed....	.90	@	1.00
Solid Ledger Stock.	1.75	@	1.90
Writing Paper.....	1.60	@	1.65
No. 1 Books, heavy	1.25	@	—
No. 2 Books, light.	1.00	@	—
No. 1 New Manila.	1.50	@	1.75
No. 1 Old Manila..	1.25	@	1.50
Container Manila ..	.85	@	.90
Old Kraft	2.00	@	2.10
Over issue News...	.90	@	.95
Old Newspaper	.40	@	.50
No. 1 Mixed Paper	.40	@	.50
Common Pape	.30	@	.35
Straw Board, Chip.	.60	@	.65
Binders Bd., Cal..	.60	@	.65

Domestic Rags—New.
Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.13½	@	.14
New White, No. 2	.06½	@	—
Silesias, No. 1...	.10½	@	.11
New Unbleached.	.14	@	.14½
Washable	.07¾	@	.08¼
Fancy	.09½	@	.10
Cottons—according to	grades—		
Blue Overall....	.11	@	.11¼
New Blue	.04	@	.04¼
New Black Soft..	.06	@	.06¼
New Light Seconds	.03½	@	.03¾
Khaki Cuttings..	.06½	@	.07
Corduroy	.04	@	.04½
New Canvas	.08¾	@	.09
New Black Mixed	.05	@	.05¼

Old

White, No. 1—			
Repacked	6.75	@	7.00
Miscellaneous ...	6.25	@	6.50
White, No. 2—			
Repacked	.05	@	.05¼
Miscellaneous	.04¾	@	.05
Thirds and Blues—			
Repacked	3.75	@	4.00
Miscellaneous ...	3.15	@	3.25
Black Stockings..	4.25	@	4.50
Roofing Stock—			
No. 1	2.00	@	2.15
No. 2	1.90	@	2.00
No. 3	1.25	@	1.35
No. 4	1.10	@	1.20
No. 5A	1.10	@	1.15
B	1.05	@	1.10
C	1.00	@	1.05

TORONTO

Paper

(Mill Prices to Jobbers f. o. b. Mill)

Bond—			
Sulphite	.10½	@	.12½
Light tinted.....	.11	@	.13½
Dark tinted.....	.12½	@	.15
Ledgers (sulphite)..	—	@	.13
Ledgers No. 1.....	.36	@	—
Ledgers No. 2.....	.27	@	—
Writing	.09½	@	
Writing S C.....	.10	@	
News f. o. b. Mills—			
Rolls (carloads)..	3.50	@	—
Sheets (carloads).	—	@	4.25
Sheets (2 tons or			
over).....	—	@	4.60
Book—			
No. 1 M. F. (car-			
loads) 8.00		@	—
No. 2 M. F. (car-			
loads) 7.50		@	—
No. 3 M. F. (car-			
loads) 7.00		@	—
No. 1 S. C. (car-			
loads) 8.50		@	—
No. 2 S. C. (car-			
loads) 8.00		@	—
No. 3 S. C. (car-			
loads) 7.50		@	—
No. 1 Coated and			
litho 14.50		@	—
No. 2 Coated and			
litho 13.50		@	—
No. 3 Coated and			
litho 12.75		@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.75	@	—
White Rag	5.25	@	—
"B" Manila	5.50	@	—
No. 1 Manila...	6.50	@	—
Fiber	6.50	@	—
Kraft, M. F.....	7.00	@	—
M. G.	7.15	@	—

Pulp

(F. o. b. Mill)

Ground wood.....	29.00	@	30.00
Sulphite easy bleach-			
ing	60.00	@	65.00
Sulphite news grade	55.00	@	58.00
Sulphite, bleached.	75.00	@	80.00
Sulphate 62.50		@	65.00

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut..	3.60	@	—
Soft White Book			
shavings	3.25	@	—
White Blk. News.	1.70	@	—
Book and Ledger—			
Flat Magazine and			
Book Stock (old)	1.25	@	—
Light and Crum-			
pled Book Stock	1.10	@	—
Ledgers and Writ-			
ings	1.40	@	—
Solid Ledgers....	1.40	@	—
Manilas—			
New Manila Cut.	—	@	1.60
Printed Manilas..	1.00	@	—
Kraft	2.10	@	2.10
News and Scrap—			
Strictly Overissue	.80	@	—
Folded News....	.80	@	—
No. 1 Mixed			
Papers	.55	@	—

Domestic Rags—
Price to mills, f. o. b. Toronto

	Per lb.		
No. 1 White shirt			
cuttings	.15	@	.15¼
No. 2 White shirt			
cuttings	.08	@	.08½
Fancy shirt cut-			
tings	.09¾	@	.10
No. 1 Old Whites..	—	@	—
Third and blues....	.05½	@	.05¾